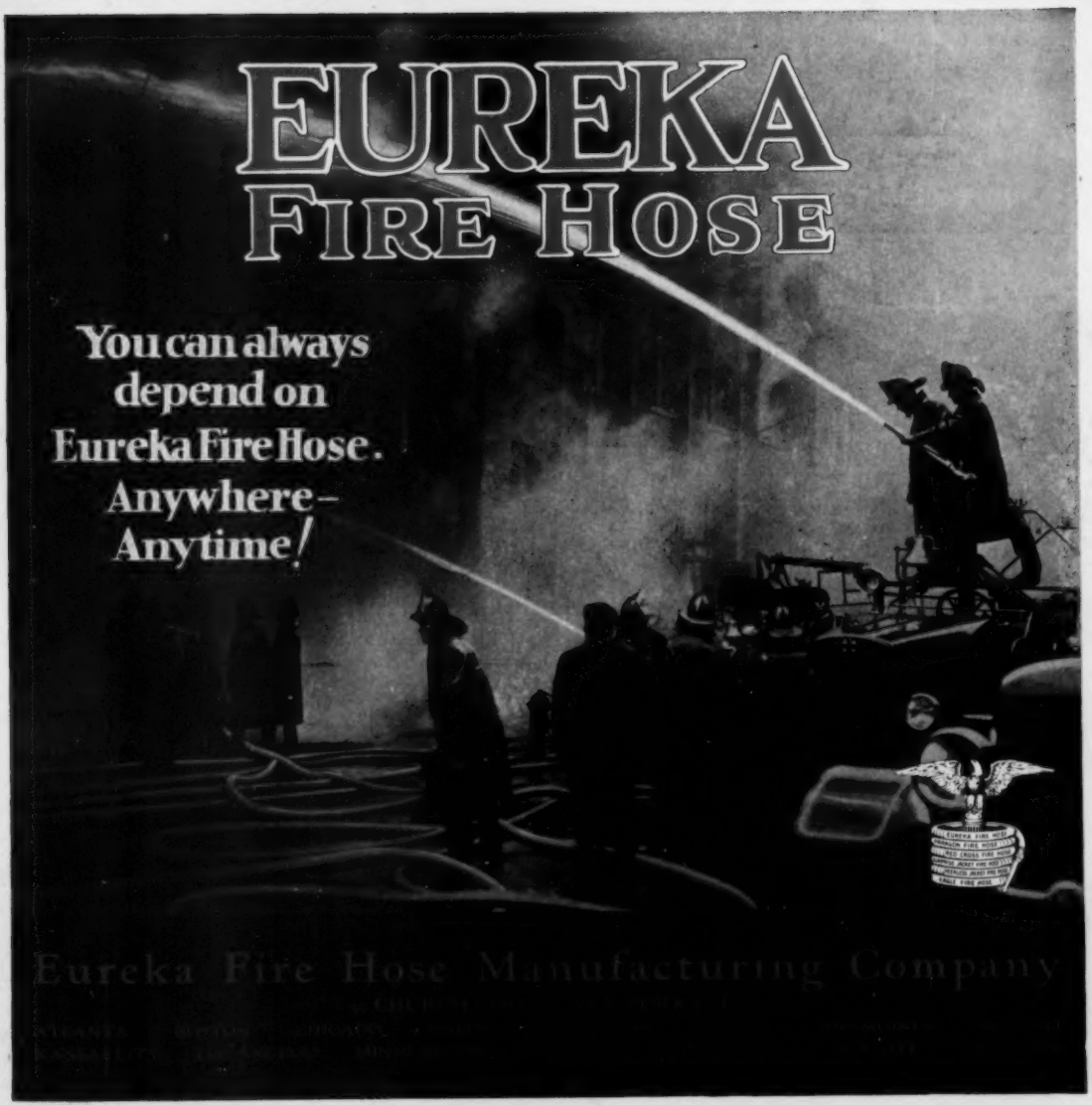
APR 9 1930
LIBRARY

FIRE ENGINEERING

A consolidation of FIRE AND WATER ENGINEERING and THE FIRE ENGINEER

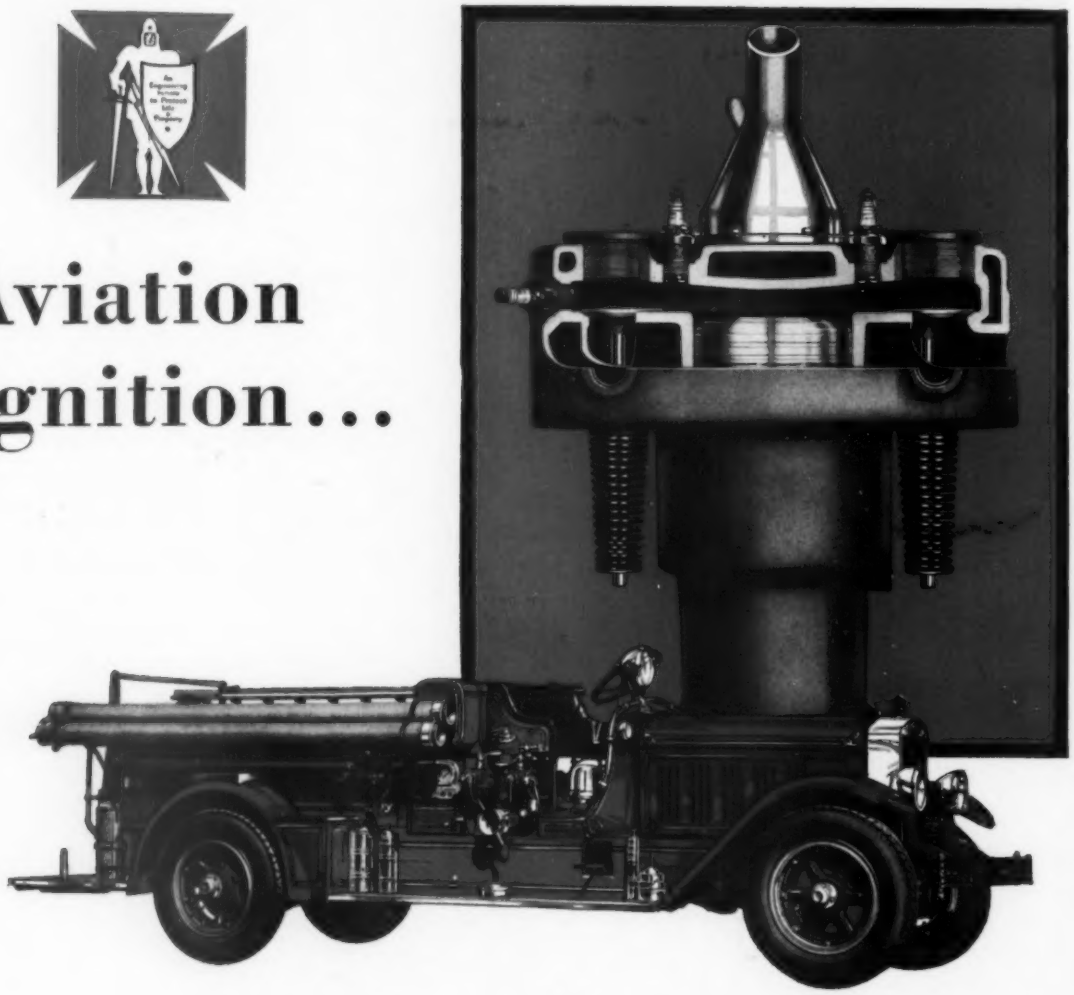
The Journal of the Fire Protection Profession

APRIL 2, 1930



ESTABLISHED 1877 PUBLISHED BI-WEEKLY

Aviation Ignition...



...an unseen value on the new MASTER SERIES APPARATUS

Increased **power, and** ***more dependable*** **power, is made available on American-LaFrance Master Series Apparatus through the adoption of aviation type ignition. This is of the battery distributor type... as developed and now used on aviation engines. A hot spark is available at starting speeds, when it is most necessary.**

In addition, this system is supplemented by a magneto ignition system, providing two independent and reliable sources of current supply. For all practical purposes, failure is eliminated.

Study Master Series Apparatus from stem to stern. New type four-wheel brakes; left-hand drive; specially developed self-contained cooling system; pressed steel, heat-treated frame.

American-LaFrance Engineers have produced apparatus that makes fire fighting a more effective, safer job.

For complete information on Master Series pumpers of any capacity, aerials, and city service trucks, write American-LaFrance and Foamite Corporation, Department A-56, Elmira, N. Y. ***Offices in all Principal Cities.***

LA FRANCE AND FOAMITE PROTECTION

AN ENGINEERING SERVICE

AGAINST FIRE

EFFICIENT AS YOUR WARNING SYSTEM

A STERLING MODEL M IS UNSURPASSED FOR WARNING FIREMEN WHEN DANGER THREATENS

Your fire department can be no more efficient than the system employed to warn your men of the presence of fire.

That is why a constantly increasing number of communities are selecting the STERLING MODEL M for this purpose.

Weather-proof, it can be depended upon regardless of atmospheric conditions to carry a powerful, unmistakable signal over a radius of one mile or more.

Even large cities can be covered adequately by the STERLING MODEL M, as sirens can be placed at strategic points and operated from a central source or from remote control units.

STERLING MODEL M Sirens can be connected with any existing system of control or alarm. They can be provided with an automatic cut-out set for a definite period of operation of two minutes, after which the system restores to normal.

STERLING SIRENS

Regardless of your siren requirements, there is a STERLING for every siren need. Built and guaranteed by the world's oldest and largest exclusive manufacturer of siren signals, STERLINGS can be depended upon for a maximum of dependable service.

Sterling engineers will gladly furnish you complete details for siren installations to meet your specific requirements.

STERLING SIREN FIRE ALARM CO., Inc.

61 ALLEN STREET ROCHESTER, N. Y.

The Journal of the Fire Protection Profession Since 1877

MEMBER
Audit Bureau of Circulations
Associated Business Papers

FIRE ENGINEERING

A Consolidation of FIRE AND WATER ENGINEERING and THE FIRE ENGINEER

Published Every Other Wednesday

SUBSCRIPTION PRICE
U. S. and Canada $3 a year; Foreign $4; Single copies 25c

Issued by CASE-SHEPPERD-MANN PUBLISHING CORPORATION
24 West 40th Street, New York City
Also publishers of "Water Works Engineering," "Municipal Sanitation," Technical Books, etc.

KARL M. MANN
President and Advertising Director

FRED SHEPPERD
Managing Editor

I. HERBERT CASE
Vice-Pres. and General Manager

H. S. ESSEX, Advertising Manager; ROBERT H. LOCKWOOD, Editor; N. N. WOLPERT, Asst. Editor
HAROLD T. MURRAY, Vice-Pres. and Western Manager, 30 N. Michigan Ave., Chicago, Ill. Telephone Franklin 0138

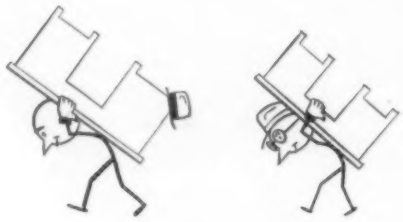
EDITORIAL ADVISORY BOARD

JOHN KENLON
Chief, New York Fire Dept.
Founder of New York Fire College

JOHN C. MORAN
Chief, Fire Department
Hartford, Conn.

GEO. J. KUSS
Former Deputy Chief N. Y. F. D.;
Lecturer on Fire Fighting, Delehanty Institute, N. Y.

A. A. BELL
Chief of Fire Brigades and Engineer "Americas Fore" Group of Fire Insurance Cos.



It's Our Move

AS we write this, an army of husky moving men are literally yanking the desks out from under our hands—hustling us over to our new and enlarged quarters at 24 West 40th Street, New York.

¶Publishing a magazine is somewhat analogous to running a fire department. There can be no such thing as time out, moving or no moving.

¶Nonetheless, it's going to be great to get settled in our new home. Overlooking the Public Library and 42nd Street, New York's busiest thoroughfare, the new surroundings are most inspiring.

¶Don't dare come to New York without dropping in on us.

The Publishers

CONTENTS

VOL. LXXXIII No. 7

APRIL 2, 1930

Arson Squads—The Ultimate Solution of Crimes of Burning, by S. L. Legried 273
Squad Provides for Prompt and Thorough Investigation of Suspicious Fires.

How the Fire Department Can Prevent Fires Through Inspections, by E. J. Stewart (Illustrated)..... 275
Success Depends Largely Upon the Inspector Himself.

Airplane Fires—A Growing Danger (Illustrated)..... 277
Inflammable Fuels and Combustible Construction Plus Electrical Equipment Make Plane Serious Hazard.

The Round Table 279
Do Your Hose Threads Conform to the National Standard Specifications of 7½ Threads Per Inch? If Not, Do You Believe They Will Be Purchased in the Near Future?

With the Editor 281
Comments on Current Events and Live Topics by Our Editorial Staff.

Questions and Answers 283
Replies to Questions on All Manners of Subjects of Fire Fighting and Fire Prevention.

Recent Important Fires Specially Reported (Illustrated).. 285
Waterfront Fire in New Orleans Burings of Two Weeks.

Fire Department Activities 295
Newsy Notes from All Over the Country with Matters Firemanic.

Fire Department Improvements 296
Record of Business Activities in the Fire Protection Field.

False Alarms 300
The Humorous Side of the Fire Protection Profession.

Contents of this issue copyrighted, 1930, by the Case-Shepperd-Mann Publishing Corp., 24 West 40th St., New York City.
Entered as second class matter April 15, 1919, at the Post Office at New York, N. Y., under the Act of March 3, 1879.

A Recent Fire at Providence, R. I....

proved again the superiority of the Ahrens Fox Pumper as a fire fighting machine. Any demand you can put on our apparatus will never exceed their ability to come thru with honors. They are designed to stand strains much greater than any you may ever place on them.

"Nothing is too good for fire service, and only the best will do."
Ahrens Fox.

THE AHRENS-FOX FIRE ENGINE COMPANY

CINCINNATI, OHIO

It will help if you will mention FIRE ENGINEERING *when writing advertisers.*

Blind firemen might use a knotted hose ~

are you blindly trusting an obstructed hydrant?

Are you blindly trusting that the hydrants will work the next time just because they worked the last time? With Darling hydrants you can be sure they will work the next time. One man on an inspection tour can quickly and easily take all of the working parts of a Darling out through the top of the barrel. He can *see* the mechanism and *know* whether there is immediate need of repair.

Other features of the Darling hydrant are: 1. Valve closing with the pressure. 2. Extra large barrel. 3. Non-corrosive working parts. 4. Automatic drain valve. 5. Unobstructed base. 6. Extension feature.

The Darling valves have the famous revolving disc gates—famous for tight seating and easy opening and closing. Write for literature on Darling valves and hydrants. Darling equipment is enough better to be worth knowing about.

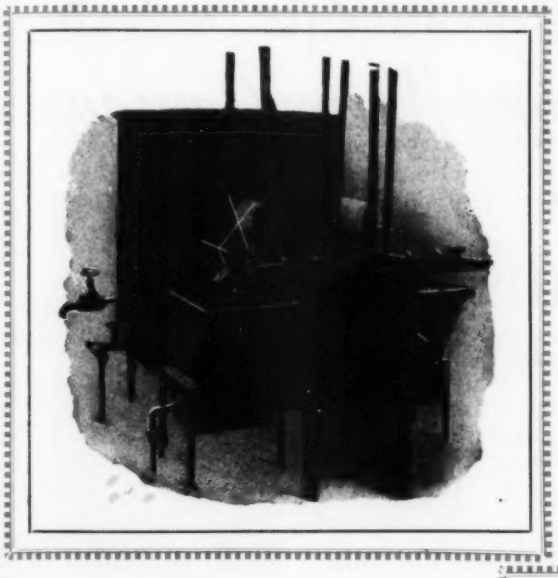
DARLING
FIRE HYDRANTS

DARLING VALVE & MFG. CO., Williamsport, Pa.

NEW YORK CHICAGO OKLAHOMA CITY HOUSTON

753

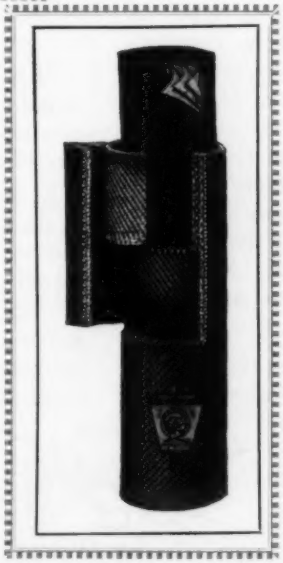
THE CHEAPEST CANNOT BE THE BEST—BUT THE BEST CAN BE THE CHEAPEST



FABRIC
WAX AND PARA GUM TREATED COTTON
FIRE HOSE

THE chief that thinks he got a bargain in buying cheap hose is a discredit to his town, his men and to the fire fighting profession generally.

Many times during the short life of cheap hose it will be called on for *first-class service.* The lives of you and your men may have to depend on that cheap hose. If we could call your attention to our dependable long life FABRIC FIRE HOSE just at *those* times doubtless you'd prefer this really fine hose that is *built for service.* You alone are responsible for the hose you buy. Don't risk your reputation on inferior quality—get the story of FABRIC FIRE HOSE *now*—and let your conscience be free when the real test comes.



THERE is a little booklet that has been prepared to help you buy hose more intelligently, by explaining how good fire hose is constructed. Sending for this booklet and reading its message will start you toward the ultimate saving effected through the purchase of this wonderful hose. Where shall we send your copy?

FABRIC FIRE HOSE CO.

9-15 Park Place, New York, N. Y.
124-126 W. Lake Street, Chicago, Ill.

Atlanta	Columbus	Binghamton	Minneapolis	San Francisco	Newark
Boston	Dallas	Baltimore	Portland (Ore.)	Los Angeles	Pittsburgh

GAMEWELL

Sprinkler Watchman

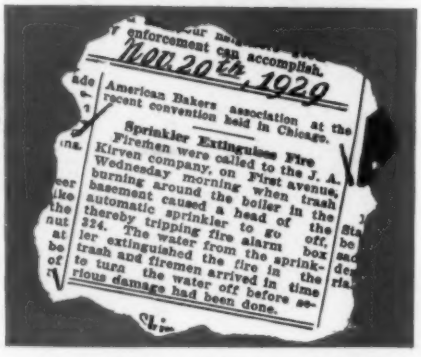
PREVENTS

Serious Water Damage

at

COLUMBUS, GEORGIA

"SPRINKLER WATCHMAN"
(*Master Fire Alarm Box*)



Nov. 20th, 1929

American Bakers association at the recent convention held in Chicago.

Sprinkler Extinguishes Fire

Firemen were called to the J. A. Kirven company, on First avenue, Wednesday morning when trash burning around the boiler in the basement caused a head of automatic sprinkler to go off, thereby tripping fire alarm box 224. The water from the sprinkler extinguished the fire in the trash and firemen arrived in time to turn the water off before serious damage had been done.

COLUMBUS (GA.) LEDGER
November 20, 1929

SEVEN Gamewell *"Sprinkler Watchmen"* are in service at Columbus, Georgia; the first one being installed there 8 years ago. According to Mr. T. F. Tillman, Supt. of Fire Alarm, each of the concerns that installed a *"Sprinkler Watchman"* was allowed a reduction in its insurance rate, dependent upon the class of risk. This rate reduction was possible because of the satisfactory manner in which the *"Sprinkler Watchman"* reduces the fire and water hazard, by automatically transmitting an alarm to the fire department whenever a sprinkler head goes off. Otherwise, it would be necessary to wait until a passerby discovered the fire.

The *"Sprinkler Watchmen"* (Gamewell *Master* Fire Alarm Boxes) at Columbus are connected right into the regular box circuits. The maintenance expense amounts to practically nothing. Mr. Tillman states: "Each *'Sprinkler Watchman'* should be tested once each month. However, we have not had occasion to do maintenance work on any of the boxes since installation."

Every fire department, equipped with a modern alarm system, is in a position to offer this service to the owners of sprinkler protected property. To the business houses and institutions it means a safeguard against fire and water loss. To the municipality it is a safeguard for the city treasury, by preventing losses of taxable property.

Write for descriptive literature on the *"Sprinkler Watchman."* One of our Sales Engineers will call if you desire.

TRADE MARK
GAMEWELL
REG U.S.PAT.OFF

THE GAMEWELL COMPANY

Newton Upper Falls, Mass.

"A Box A Block"

FIRE ENGINEERING

(A Consolidation of Fire and Water Engineering and The Fire Engineer)

The Journal of the Fire Protection Profession

VOLUME LXXXIII APRIL 2, 1930 NUMBER 7

Arson Squads—the Ultimate Solution of Crimes of Burning

What the Squad Can Accomplish — Provides for Prompt and Thorough Investigation of Suspicious Fires

By S. L. LEGRIED, State Fire Marshal of Illinois

IN the following paper the Fire Marshal emphasizes the need for the formation of arson squads to combat incendiarism and submits some interesting facts as to the advantages to communities of the services of these bodies:

S. L. Legried

It will be of interest to know what an important place the great state of Illinois is giving to arson squads in the campaign to suppress crimes of burning in that commonwealth. The time was when arson was a comparatively rare crime. When I use the term arson in this discourse, I mean it to cover in general all of the crimes of burning. Of recent years it has been a crime of frequent occurrence, causing at times perhaps fifty per cent of our total fire loss. We have found that when business is good, there is little arson, but when business is bad, crooked fires increase enormously. We even can anticipate a wave of incendiary fires in particular lines of manufacturing and merchandising by observing "trade winds" which affects those lines adversely. Nor is arson confined to business enterprise. Private citizens are not at all averse to a fire when their personal fortunes are at low ebb, and homes and automobiles are offered to the insurance companies in a profusion which is a reproach to our ideals of citizenship.

This condition is no longer a threat. It is a reality. It can be met only by the systematic organization of the forces of society in an intelligent, organized and persistent campaign.

Reasons for the Arson Squad

The arson squad idea is right because:

It recognizes the menace of arson as a community responsibility.

It organizes the forces of the community properly to combat it.

And it provides the machinery for an immediate, sure and searching investigation of every questionable loss, which not only enhances the prospect of convicting the culprit, but is likely to be a potent factor in preventing a great many burnings.

It is one of the axioms of fire prevention that we must get down to the communities themselves if we are to reduce our fire losses, for it is the local losses which make up the staggering totals in state and nation. It is entirely out of the question for any State Fire Marshal, with the limited number of men at his disposal, to cope with the fire problem without efficient local cooperation. Always has our success been conspicuous in cities and villages which themselves have been conspicuous in carrying on the work. Hitherto we have stressed the in-

"The Arson Squad idea is right because: It recognizes the menace of arson as community responsibility; it organizes the forces of the community properly to combat it, and it provides the machinery for an immediate, sure and searching investigation of every questionable loss, which not only enhances the prospect of convicting the culprit, but is likely to be a potent factor in preventing a great many burnings."

spection end of fire prevention in building up local co-operation. From now on we must give arson at least an equal place on the program.

All Forces Linked Up in Fight

It is wrong to place the entire responsibility on the shoulders of the fire chief. The crime of arson is a crime against the community. In the organization of arson squads, that fact is recognized for the first time and all the forces of the community are united in formidable array against the common menace. The police department is linked up with the fire department; to these two is joined the civic leadership which moulds the trend of public sentiment. This latter feature is a stroke of organization genius. Always have we been handicapped in fire prevention efforts by public indifference. Repeatedly have we brought suspected firebugs to the bar of justice, only to have them turned loose on one excuse or another by sympathetic juries, which after all are but a cross section of the sentiment of the public at large toward the crime of burning. It has been apparent for some time that the public viewpoint needs correcting and the arson squad idea provides the most promising means yet devised for bringing this about.

The movement is young and a great deal of hard work is ahead, but experience to date leads us to believe that we are on the right track to build up a public sentiment throughout the length and breadth of our state which will insist on the proper punishment of the arsonist and make him the social outcast he should be.

Allows for Prompt and Thorough Investigation

The arson squad plan furnishes the ever ready machinery for a prompt and thorough investigation of every suspicious loss. It is ready to function while the embers are still hot. The vital few hours after the fire, which often spell success or failure of an investigation are not lost. If there is tangible evidence of a "plant," it is secured before it can be obliterated or tampered with. Pertinent information as to the movements and actions of the suspect or his confederates may be secured which later may break the inevitable alibi. Knowledge of local people and local conditions may enable the arson squad to secure important information or leads which might be difficult for a state investigator to acquire later on, if at all. When a state man does arrive, he, instead of the crook has the advantage of the "breaks." And, since a case of arson usually is built on circumstantial evidence, this is very important.

Here Is a Picture That Tells Its Own Story

The photograph illustrates the dangers of public gatherings in the event of fire. During the labor day celebrations in Brisbane, Australia, the procession was half-way down Queen Street when the fire department received a call to a building almost opposite the station. The arrow indicates the position of the fire apparatus outside the building. The presence of fire apparatus in the street immediately created excitement, and the entire procession was held up. The alarm proved to be false so that whatever delays were caused by the crowds did no harm.

What Arson Squads Can Do

Efficient arson squads are almost a necessity for the proper functioning of a State Fire Marshal Department. They can do the following important things:

1—Take care of the emergency when the fire marshal is so swamped with investigations that new cases must wait.

2—Insure the investigation of **all** fires of any suspicious tinge whatever. The very number of such losses is beyond the resources of any fire marshal.

3—Dispose of cases which develop nothing or hold no promise of success, leaving the fire marshal free to concentrate on cases which require searching investigation.

Approaching Scientific Method of Handling Problem

In other words, we are approaching something like a scientific method of handling the arson problem. Convictions should show an increase. Better yet, the crime itself should be prevented in large measure. The arsonist at heart lacks courage,—popularly speaking, is "yellow." The nature of the crime stamps him as a coward. Burning for profit is not likely to be popular in a community where all fires are under scrutiny of an active arson squad.

Of course I am speaking of an ideal condition, which we as yet have not reached. Organization of squads is one thing. Developing them into highly efficient local investigating units is another. This is the big job of the fire marshal. It is a matter of education and perseverance, and will take time. Knowledge of the law is necessary. The kind of evidence which is required to make out a case must be learned. Enthusiasm and interest of members must the built up and sustained, and a spirit of self-reliance must be built up. All this can be done.

Conspicuous Success in a Number of Cases

We had conspicuous success in a number of cases where the arson squads showed courage and initiative. In one community a wave of mysterious fires was stopped, though no one was apprehended. In another, five are under indictment in connection with a hotel fire in which several lives were lost. I recall two cases where deputies from my office secured confessions, largely because the preliminary evidence had been gathered so well by the local squads. In another instance the suspect took a hasty, and, I think, a permanent departure when one of our men confronted him with evidence built up by the local squad. In a very recent case a beautiful plant was discovered about midnight, with the candle burned almost to the point where a pile of papers and trailers would have ignited. We got on the job promptly, had $19,000 of insurance cancelled and hope to be able to place a charge against the suspect. I am quite sure there will be no set fires in that community for a while.

The idea back of arson squads has proved to be sound in combatting other forms of crime. The idea of a local posse forming whenever a crime is committed dates back several hundred years. That was before our system of law and order had been developed. Even now, when a dastardly crime is committed, we find the citizens going out in posses, and woe be unto the culprit if they catch him.

The epidemic of bank robberies a few years was not finally curbed until the banks themselves, through their associations, arranged for armed protection of the vari-

(*Continued on page 299*)

It Takes a Uniformed Inspector to Get Action

How the Fire Department Can Prevent Fires Through Inspections

Success Depends Largely Upon the Inspector Himself—Best Results Will Come Through Courtesy, Firmness and Tact

By E. J. STEWART, Chief Engineer, Kansas Inspection Bureau

ONE of the most important means of "fighting fires before they occur" is by means of inspections conducted by the uniformed force of the Fire Department. The following paper makes some excellent suggestions along these lines:

No part of a fireman's duties is of greater importance or will bring greater returns than periodical inspection of mercantile and public buildings. Perhaps careful and systematic inspection is more important than actual fire fighting for there is no way of knowing how many fires may be prevented by the removal or safeguarding of fire hazards, and certainly a fire prevented means more to the fireman and property owner than even an incipient fire extinguished.

Not only are fire hazards discovered and removed or safeguarded, thus eliminating cause for a fire to occur, but the fireman obtains valuable information about the construction and arrangement of the building and may thus apprehend what fire may be expected to do should it get a start. It is mighty essential that firemen know their battle ground, i.e., have a full knowledge of the construction of the building, the exposure from and to other buildings so that the fire's spread may be guarded against and the arrangement of stock, furniture and fixtures as well as an understanding of exits. Often one will venture in too far and find it necessary to leave by the quickest possible way out. One's safety should always be foremost in thought, for an injured fireman is of no assistance in fire fighting.

Whether a volunteer or a full paid fireman and regardless of an ordinance requiring regular inspections, every member of a department owes it to himself and the community he serves to make inspections. If he is not required by ordinance to inspect, he should be very observing every time he enters a building, and call the owner's attention to any irregularity or hazardous condition he may notice and offer any suggestion that might tend to conserve life and property.

The up-to-date fire departments are very active in fire prevention, and today no such organization is putting forth its best effort unless it is doing effective work in preventing fires. It devolves upon the Chief to take the initiative in such work and formulate a plan whereby all of his men may have a knowledge of hazards and an opportunity to occasionally inspect buildings in which they might be called upon to battle a fire.

Success Depends Upon Inspector

The success and value of inspections depend upon the character, ability, intelligence, diplomacy, tact, knowledge and judgment of the inspector and the manner and thoroughness of his work. He should be familiar with all ordinances and regulations pertaining to building construction and fire hazards. He should have a broad understanding of common and special hazards so often found, and be authority on matters of this kind. He should have an observing eye, an inquisitive mind and be willing to investigate thoroughly each building he endeavors to inspect. He should be able to explain fire hazards found and above all he should have

the good will and confidence of the property owners. One should not be officious, bull-dozing, nor should one ever abuse his authority, and no inspection should ever be made without the knowledge and sanction of the owner.

Technical Knowledge Helpful But Not Necessary to Inspection

While technical knowledge is helpful, its lack should not discourage the fireman. Most fires are due to very common causes with which nearly all firemen are familiar. When conditions are encountered where the degree of hazard is doubtful, it is generally an easy matter to obtain the advice and counsel of someone well-informed and trained in the business. In all cases good judgment is of first importance. Criticism should be constructive; in other words, when a hazard is pointed out call it to the attention of the owner by suggesting some practical method of safe-guarding the condition, if possible, rather than leave him in the dark as to what to do. When sure that a hazardous condtion exists, the inspector should show a gentlemanly firmness and persistance in having the needed corrections made. Owners nearly always welcome any reasonable suggestions that are made in the interest of protection against loss by fire.

Best to Wear Uniform, or at Least Badge

It is best to wear the fireman's uniform or badge in inspection work. As the building is approached, observe carefully the type of construction, condition of walls, roof, and chimneys, exposure to and from other buildings, outside fire escapes, accessibility, location of nearest hydrant and fire alarm box. Plan how lines of defense should be laid in the event of fire and what precautions should be taken to keep it from spreading to other buildings.

Be Helpful, Firm, But Always Courteous

After receiving permission to proceed with the interior inspection, be on the lookout for all fire hazards and undesirable conditions. Discuss with the owner any suggestions you may have to offer. Avoid petty fault finding and don't be drawn into useless arguments. Your business is to find hazards and defects and make practical and constructive recommendations for improvement.

Equip yourself with a good handbook for inspectors. When you are sure of your ground, be firm but always courteous and respectful and insist upon proper correction of defects. Never lose control of your temper regardless of what is said. Make your recommendations in the form of suggestions rather than official demands. Only after all other methods have failed should legal proceedings be taken. Don't let any one with political influence interfere with you in doing your duty.

Be systematic in making inspections, start at the top and work down to the basement. Do not pass up the attic, closets or unused rooms; make the inspection thorough in every respect. Provide yourself with an electrical flashlight so that you may see into all corner and dark places without the risk of lighting matches.

Sketch of Each Building Should Be Made

Make a sketch of each building showing exits, stair and elevator shafts, skylights, arrangement of stock and fixtures and other detail that should be considered, and always record conditions as found in some convenient form, and afterwards discuss with other members of the department the possibility and probability of a fire, how it should be fought, what precautions should be taken to keep it from spreading and what method would be best to keep the loss from fire, smoke and water down to the minimum.

There are many causes of fire, all of which may be divided into three classes: Carelessness, Ignorance, Indifference. It is your duty to endeavor to cause people to be more careful and thoughtful and realize the danger of fire. Those ignorant of hazards that exist should be informed. The indifferent person is a poor citizen and here is where diplomacy and tact is required to change his attitude before sad and costly experience changes it for him.

Some Common Hazards Encountered

Perhaps it might be well to briefly mention a few common hazards you are likely to encounter, and also two or three features of construction of buildings.

When conditions are favorable fire will spread to other buildings through unprotected openings; therefore, it would be proper to recommend wired glass in approved metal frames or standard fire shutters on all windows that are exposed. Openings in division fire walls should be protected by approved Class "A" fire doors properly hung on each side of the wall. Fire will spread very rapidly thru open stairway, elevator and light shafts.

Approximately 15 per cent of the fires are caused by defective chimneys, many of which are not built from the ground or foundation as they should be, and only in recent years has it become the custom to line them with fire clay tile. Every few years chimneys need to be retopped. Stovepipes, when extended through combustible floors, ceilings, roofs, partitions, sides of a building and similar places, are dangerous and should always be provided with ventilation thimbles.

Practically all conflagrations may be laid to the wood shingle and the hazard is eliminated when roofs are covered with approved composition, metal, slate, tile or other incombustible material.

Electrical Hazards

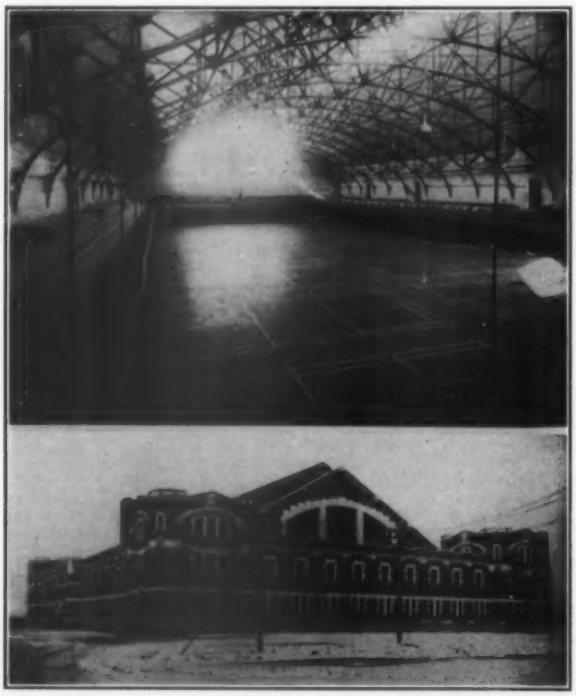
The wheels of progress could no longer go round without electricity, but care should be taken in the installation of electric wiring and the rules of the National Electrical Code should always be followed. It is very unsafe to overfuse circuits and a fuse, which is the safety valve, should never be jumped with wire or otherwise tampered with. Watch out for improper use of common lamp cord; it is dangerous. Insist on pilot lights or other approved indicating device to be used in connection with electric irons, and request that they rest upon an approved stand.

Miscellaneous Precautions

It requires less effort and time to throw rubbish beneath the stairs, in a closet or into some unused room than remove it from the building. It is not very safe to burn trash in the high value district, especially in the open. Brick, stone or concrete make the best incinerators.

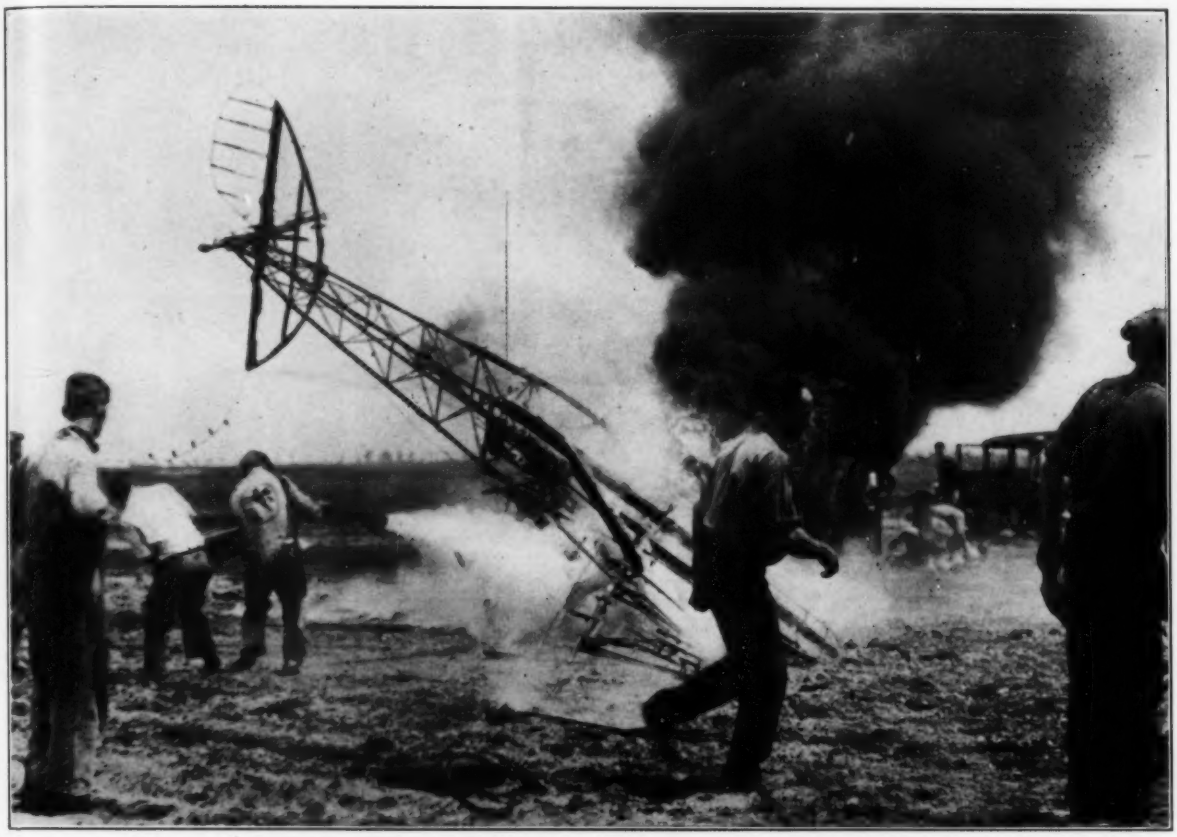
In machine shops, garages, and similar places, standard

(*Continued on page 299*)



This is Where the Exhibits of the I. A. F. C. Will be Held

Displays of manufacturers will be exhibited in the Minto Armory at Winnipeg, Canada, in conjunction with the annual meeting of the International Association of Fire Chiefs, September 9-12. Chief Charles Alt, of St. Louis, Mo., is chairman of the Exhibit Committee, and all interested should communicate with him. The armory has a floor area of nearly 30,000 square feet. The upper photograph shows the inside of the armory and the lower, the exterior. Bus transportation will be provided from the exhibit hall to the place where the meetings are to be held.



The First Minute—Not the First Few Minutes—is Vital at the Airplane Fire

Two passengers were in this Gypsy Moth plane which crashed at Roosevelt field, Long Island, on June 26th of last year. Although the field fire brigade arrived on the scene a couple of minutes after the plane cracked up, the pilot of the machine burned to death while rescuers made frantic efforts to save him. The passenger was removed from the burning wreckage, but died shortly afterwards in the hospital. At the right background may be seen attendants at the field administering first aid to the passenger.

Airplane Fires—A Growing Danger

Inflammable Fuels and Combustible Construction plus Electrical Equipment Make the Plane a Serious Potential Fire Hazard

IT has been said that as quickly as industry develops a new fire hazard, science provides extinguishing equipment to protect it. While this is substantially correct, the advent and development of the airplane have created a fire problem which so far has not been entirely counteracted by the development of fully effective fire fighting equipment.

Although the average plane fire may be considered an incipient one, the number of planes which have been completely destroyed by fire and the number of lives which have been lost thereby are sufficient evidence that a problem has developed of sufficient seriousness to require a lot of work on the part of fire protection engineers to provide suitable fire extinguishing equipment for this type of blaze.

Not only is the airplane in itself a fire hazard but the fact that a plane may drop at any point, landing on a building or an industrial plant of normally high combustible nature presents an incidental problem which is serious in the extreme.

Picture, for example, a plane crashing on the top of a large building, and through the explosion of gasoline fumes generated, igniting combustible material within the pent house on such a building. The possibilities would be tremendous.

The greater danger lies in the presence of highly volatile, inflammable fumes. This danger will always be present, for satisfactory engine fuels must always be inflammable.

The growing use of metal in place of combustible fabrics in airplane construction reduces somewhat the hazard of fire, but the average plane will never be looked upon as anything but a severe hazard both to property on which it may land and to the passengers within the plane.

The danger of plane fires is not confined to the city, but is present throughout the territory over which planes may travel. Numerous forest and grass fires have been caused by planes making forced landing. Probably the greatest handicap in handling the airplane fire is the usually inaccessible point at which it lands. Even should it crack up over a landing field, it is quite a run for the fire department to reach the field and get to the point at which the plane has fallen. The few minutes

A Little Bit of Good Luck Here—the Burning Plane Landed Safely

A 1000-foot glide to safety with smoke and flames streaming behind like a comet, ended a thrilling experience of passenger and pilot in this plane at Roosevelt field on Dec. 26th last. The pilot-instructor and his student leaped from the cabin of the plane just before the picture was made. Although hand extinguishers were employed, no appreciable headway was made against the blaze, and complete destruction of the plane resulted.

required for the department to arrive at the scene is sufficient for the fire to completely envelop, and frequently destroy, the plane.

Forced landings are ofttimes made on the outskirts of the city with the same problem of fire apparatus response.

Extinguishing Agents

Water, if it is present in sufficient quantities and brought into play instantly may check the spread of the fire and enable rescue work to be performed. Water streams directed on the gas tank will keep it cool and prevent explosion. I may also aid in driving the burning gasoline away from the structure. It will likewise check the spread of the fire in the plane construction itself.

Lucky All Around

Forest rangers have used planes in fighting fires, but this plane started one near Hammonton, N. J. The motor took fire in air, and the pilot jumped to safety. The blazing plane fell and ignited brush. Luckily the fire was checked in its early stages and little damage was done to the woods. The plane was a total loss.

But water streams are rarely available in time to prove effective.

This leaves the task of extinguishing the blaze upon first aid appliances such as soda and acid extinguishers, foam extinguishing apparatus, carbon dioxide extinguishers, carbon tetrachloride, etc.

Even with any of these appliances it is vital that the operations of extinguishing be started instantly. Records of airplane fires show that few of such fires are extinguished before the plane has been completely destroyed.

Of all the appliances so far employed possibly the carbon dioxide gas extinguishers are the most effective, if the equipment is available in sufficient size to handle the blaze.

Fire in flowing gasoline, particularly where vessel from which it is flowing is above the ground, is extremely hard to extinguish. Either carbon dioxide gas or the Du-gas type of extinguisher, employing some inert gas with powder in combination, is about the only thing that will handle it effectively.

For extinguishing the gasoline once it has spread over the ground, foam is very effective. This agent is also effective in covering exposed surfaces with a layer of foam insulation.

The soda and acid extinguisher is of little use, due to its limited capacity, while carbon tetrachloride is also ineffective, the gas being blown away as fast as it is generated.

Sand is of some use in preventing the spread of the fire, if sufficient shovels and men are at hand instantly upon the landing of the plane.

Many landing fields have their own fire apparatus consisting of a light motor driven machine, sometimes equipped with pump and booster tank, and at other times with chemicals only. Such machines, if they carry foam

(*Continued on page 295*)

THE ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

MIDDLEBURG was in a bad way. Additional pumpers and men were needed to check the mad rush of flames forced onward by a violent wind. Calls were sent to the nearest available points for help.

In the distance the first of the out-of-town units is seen approaching. The stricken town is jubilant. The fire will soon be checked. Joyfully the commanding officer assigns the fresh company to a hydrant.

But the mad rush was all in vain. The hose threads did not mate.

While the above incident is but a fabrication, there are many small cities and towns that can tell a story that follows a similar outline. It is necessary to have some standard in hose thread measurements, if a mutual aid system is to be established. Think of what might have happened at the Fall River, Mass., conflagration if the out-of-town companies could not have connected to the local hydrants.

The problem that is discussed in this issue is printed on this page. In the box on the following page is the question that will be treated in the next issue. Should you have some comments on the next problem or if you have a question that you would like to see treated in this department, write to the "Round Table Editor," FIRE ENGINEERING, 24 W. 40th St., New York, N. Y.

HERE IS THE PROBLEM

Do your hose threads conform to the National Standard specifications, 7½ threads per inch?

If not, do you believe they will be rechased in the near future?

Does your thread correspond to that of nearby cities so that mutual aid will be possible?

The Question

All of the chiefs who have contributed to this discussion endorse the plan of some common hose thread measurements to simplify the problem of mutual aid.

A. B. Canfield, Chief, Pocatello, Idaho: We use National Standard thread only. We are not in a position to obtain help from nearby cities, as the nearest to us is 25 miles away and equipped with but one piece of apparatus. Under no circumstances could we expect them to send their apparatus should we desire help, and I therefore am not much interested in just what thread they might have, but am under the impression that all Idaho cities have Standard threads now. The Bureau I understand furnishes their standard threading machine to all cities desiring to standardize, and I presume that our neighboring city has taken advantage of this opportunity.

In my position here I rely upon the Oregon Short Line Railroad "Union Pacific System" who have their shops and store supply house here with a valuation of several million dollars. This railroad had Standard thread on all their hose—some several thousands feet located here in the city. They maintain a volunteer fire department with a club house for the volunteers, several men sleeping at the club house at night and work in the shops during the day. They have a combination hose and chemical car and plenty of hose which is at our command at all times, and is under the supervision of the chief of the city fire department when answering their fires in the yards or in the shop buildings.

Joseph H. Speddy, Chief, Lakewood, Ohio: Our hose threads do not conform to the National Standard specifications due to our being in the Metropolitan District of Cleveland and they use 8.216 thread. The metropolitan area virtually covers the entire county of Cuyahoga which consists of more than fifty separate municipalities, all being more or less dependent on one another. It would therefore be impracticable to use the National Standard thread specification. If the city of Cleveland decides to change to the National Standard we would of necessity be forced to conform to the same.

Chas. A. McGinley, Chief, East Orange, N. J.: Our hose threads do not conform to the National Standard. It would be very poor judgment for any one fire department to change to National Standard hose threads if they are compelled to depend on each other for assistance during a conflagration. I am of the opinion that the change should take place only when a group of fire departments plan to make this change together.

All surrounding municipalities are asked to help in the event of a serious conflagration. If one city was to change to National Standard threads and the others did not, conditions would be very serious and particularly so if no adapters were available. The standardizing of hose threads should be worked out with a group of municipalities and never by one individual fire department.

C. J. Beatty, Chief, Jamestown, N. Y.: The city of Jamestown does not have threads conforming with the National Standard specifications, nor has anything been done with the scheme of having them rechased. The thread size for Jamestown is 8 threads to the inch, 3 1/16 outside measurements. Our threads correspond with those of three nearby villages, which in all probability would be the only places we would call for assistance.

E. Seymour, Chief, Plattsburgh, N. Y.: In 1916 when I took charge of the fire department I soon found that we were having trouble with hose couplings. Securing a thread gauge, we found that we had three sizes of threads, 7, 7½, and 8. Hydrants with 7 threads, we found that we could couple with the 7 and 7½ threads but not the 8-thread, and thereupon removed all 8-thread couplings. All future hose orders of course specified 7½-thread. We also bought a tap and die to rechase any damaged or bruised threads and have since experienced no trouble.

Plattsburgh is the county seat and the largest town in a radius of fifty miles and frequently called upon to assist the smaller towns to fight fires. Whenever the opportunity presents itself, we advise the smaller towns to equip themselves with the Standard thread, making it possible to couple their hose with ours.

George M. Kellogg, Chief, Sioux City, Iowa: Our thread does not conform to the National Standard specifications. Our water system was the first one installed in this part of the country and at that time there was no standard. I am afraid that it will be some time before we can rechase our threads, as the water department has over fifteen hundred hydrants and it is a big job for them to be changed over. Should the hydrant threads be changed, we would of course have to change coupling threads to conform with them. I believe it should be done.

There are no cities near us that have our thread size except a few small towns that I have had adopt our thread when they put in their water system. In 1904 when we had a conflagration we called for help from Council Bluffs, Iowa, and Omaha, Nebraska. The for-

mer upon arriving found that they could not connect to our hydrants, but fortunately we had the situation under control. There is no question in my mind but that every city should adopt the Standard thread.

Thos. H. Shipman, Chief, New London, Conn.: New London has National Standard threads. About two years ago through the efforts of Chief Moran of the Hartford Fire Department, Mr. Clark, one of the Hartford Fire Commissioners, and myself, we started a campaign in our vicinity to have all the nearby towns not using the National Standard thread to change over. We agreed to furnish the tools and assist in any way possible.

In about six months time the job was completed in my section and at the present time all towns within a radius of twenty miles have National Standard threads. I believe that inasmuch as the smaller towns are dependent upon the nearby cities for a great amount of fire protection much could be accomplished if the chief procured a set of standardization tools and approached the officials of surrounding communities with the idea of carrying out such a program.

E. A. Rahm, Chief, Staunton, Ill.: Hose threads of Staunton conform to the National Standard specifications. We carry an extra coupling for neighboring cities whose threads do not conform to the standard, and they likewise have a coupling to fit our plugs. This arrangement was made effective through the activities of the 3 M. Firemen's Association which comprises cities in this locality. Out of eight cities holding membership in the association only two do not have standard threads, which necessitates each department having to carry two extra couplings. These couplings are labeled so that when responding to a call to a neighboring city there is no confusion.

James Schooley, Chief, Medina, N. Y.: Our hose threads are standard—7½ to the inch. Hose threads conform with those of Albion and Lindenville, while adapters are required in Middleport and Lockport. Couplings are kept in readiness in case of a call from a community not equipped with Standard threads, and they likewise in case of a call for assistance from us.

Robert M. Tappin, Chief, Gardner, Mass.: Our hose threads conform to the National Standard specifications. This work was completed about three years ago. I went to Greenfield and purchased a set of rechasing tools, taps, dies, vice, etc. All department threads were converted and then we turned our attention to hydrants at factories, etc. When completed with our own department, we loaned the equipment to nearby towns so that they might do likewise.

During the past summer we had hose from seven towns connected in a single line with four pumpers—a stretch 5,800 feet up a steep elevation to the town of Hubbardston. This was made possible by the towns and cities having the National Standard hose threads.

Daniel Hyland, Captain, Ware, Mass.: The Standard thread has been in use for many years in this department. Our nearest towns have been re-threaded to conform with these specifications.

Personally I believe that a universal thread size is the proper thing. As for the 7½-thread—the advantage for that size was to fit either 7 or 8-thread, which from my experience, has not always held true due to insufficient clearance. Barring the cost of change, a standard thread is the only thread to be considered; but you know 7½ is not standard and it required a special tap and die for repair work at an appreciable price.

As stated previously, I believe the 7½ affords too much clearance and would therefore favor 7 instead of 7½.

Henry J. Schulz, Chief, Ashland, Ohio: Our hose was all changed to conform to the National Standard specifications about two years ago. Our neighboring communities are also similarly equipped with the 7½-inch thread so that it is possible for us to respond to or send out a call for assistance and know that when such response is made it will be possible to employ the apparatus on hand.

Fred J. Washburn, Chief, Auburn, N. Y.: Auburn hose threads are 7½-threads per inch, outside diameter, male butt 3 3/32, which is 1/32 inch larger than National Standard. It is possible for us to connect to Standard thread connections, but they cannot connect to us. The majority of our nearby towns have the same size threads as Auburn.

When we find threads of odd size or have to use damaged couplings, we enclose the open butts in a 2½ inch copper hose jacked with good results.

M. S. Philip, Chief, Chicago Heights., Ill.: Our hose threads at 7½ to the inch, but the diameter is 3/64 under the National. This is what we call the "Chicago Standard." Our male coupling will fit the female National Standard but Our female will be a tight fit for the National Standard male coupling.

Most of the departments around Chicago feel that some day they may have to call Chicago and therefore like to have the same standard. We hope that some day all of us will adopt the National Standard as it will require but little effort or chance.

Two cities in our Community Association have the National Standard and the others the Chicago Standard, so that we carry adapters in case the couplings are too tight to interchange.

Victor H. Veit, Chief, Stamford, Conn.: The hose threads of the Stamford Wire Department do not conform to the National Standard specifications and in all probability will not be rechased in the near future as the hose threads of all the surrounding towns are the same as ours. To make such a change at the present time would work a hardship on them.

While I am heartily in favor of the National Standard thread on all hose in every department throughout the country, I do not think it advisable to make the change here until the surrounding towns are ready to do so.

M. J. Kennedy, Chief, West Orange, N. J.: At the present time we are not using the National Standard thread nor are we contemplating having our threads rechased. On account of surrounding cities upon whom we have to call for help not having Standard threads, we cannot at this time make a change.

I believe in standardizing, but under the circumstances above noted I would not be doing justice to the department to make a change unless our neighboring departments do likewise.

W. J. Mohr, Chief, Santa Monica, Cal.: We employ the Pacific Coast thread—7½ to the inch, 3 1/64 outside diameter male.

We are standardizing the threads and can use our hose in any city in southern California as we all use the Pacific Coast thread. We accomplish a great deal through our organization known as the South California Fire Chiefs Club.

J. I. Fetters, Chief, Mishawaka, Ind.: Our hose threads were rechased in 1921 to conform to the National Standard specifications—7½ threads per inch.

Mishawaka adjoins South Bend, and threads in that city are also National Standard. Hydrants in both cities can be used by either of the above mentioned departments. In fact, there have been instances when this was done.

Arthur J. Baker, Chief, Lewistown, Mont.: We had such a variety of hose thread sizes in Montana that we started several years ago in our state association to standardize these threads.

A state law was passed authorizing the State Fire

(*Continued on page* 291)

HERE IS THE PROBLEM FOR THE NEXT ISSUE

How do you raise funds for financing your department?

Do you find that carnivals and shows repay sufficiently for the effort expended?

With the Editor

"Trade Mark" Hose

The Michigan Municipal League in a recent bulletin to members presents some information on "labelled" fire hose and "standard brand" fire hose which is open to criticism. Evidently, from the data presented in the bulletin, the Michigan Municipal League plans acting as a purchasing agent for Underwriters' labelled hose for their member cities who may wish to pool their purchase orders.

As far as this particular plan goes, no comment is needed. But some of the statements require qualification or contradiction.

The bulletin says:

"Many cities in the country, several in Michigan, are buying fire hose on definite standard specifications, prepared by the Underwriters' Laboratories, at about half the price per foot charged for 'trade mark' hose distributed by rather expensive salesmanship."

In other words, the editor of the bulletin apparently believes salesmanship is necessary only in selling "trade mark" hose. Does labelled hose sell itself? Is there no competition in the sale of labelled hose? Are no salesmen required for the sale of this hose?

It has been the writer's experience that where bids are being asked for labelled hose there may be as many as six different manufacturers of labelled hose bidding on the order. And salesmen are right on the job trying to sell their product.

Hence the "expensive salesmanship," if it is expensive, seems to apply both to labelled hose as well as to "trade mark" hose.

And, to quote further from the bulletin:

"Moreover, when hose is purchased by 'trade mark' alone, it is a gamble what you get for your money. The fact that one kind of hose sells for more than another offers no assurance that the higher priced hose is the better."

This statement is entirely correct, where the purchaser goes out into the market and picks up any hose merely because it bears the trade mark of a manufacturer. He must make his selection of hose just as he would select his make of car—by considering the reputation of the maker. No fire chief nor other official purchasing fire hose need have fear of lack of quality in the products put out by well established manufacturers of fire hose, who make fire hose their sole business. These manufacturers have reputations to uphold and cannot afford to take any chance in putting out a product which would later reflect discredit upon them. A single order from a city means nothing to such a manufacturer of fire hose. He must figure on repeat orders if he is to remain in business and in order to get repeat orders he has got to put out a product which will render service. Real assurance that hose is going to give service in proportion to, or greater than, the price paid for it may be had by the purchaser dealing only with concerns whose reputations are fully established.

The bulletin continues:

"Inasmuch as the average city cannot purchase large quantities of fire hose at one time, it cannot take advantage of either quantity prices or the system of inspection used during manufacture, by which the purchaser is furnished detailed test results on all hose purchased."

Here is where the purchaser buying from an established maker of "trade mark" fire hose has a tremendous advantage. He knows that every foot of hose put out by the company under a definite brand is of a definite quality. He need have no fear that a lot purchased one year is going to be any different than a lot of the same brand purchased either in a previous year or to be purchased later. Again, reputation, which the manufacturer jealously guards, gives full assurance that products will be up to the mark.

In this connection it might be mentioned that some of the mechanical goods manufacturers, who are not specialists in fire hose, but who only build an occasional lot of hose either to keep their plant busy during slack periods or to fill some large order they have secured, have little interest in repeat orders. They are only interested in filling the order immediately at hand. They are not concerned with what service the hose gives, outside of meeting the specifications. As a matter of fact, if the hose bursts the day after the time limit is up it is of no concern to this latter type of manufacturer.

Contrast this situation with the concerns specializing in high grade fire hose. Repeat orders represent the bulk of their business, and were it not for repeat orders they would soon go out of business. Repeat orders are secured not through salesmanship, but rather through past performance of their products.

To quote from the bulletin again:

"This situation can be easily overcome by various municipalities pooling their orders through the Michigan Municipal League and asking for bids on standard Underwriters' specifications and authorizing Underwriters' Laboratories to act as their inspection agency. There will be *no charge* for overhead, and inspection by Underwriters' Laboratories *costs the purchaser nothing.*"

Is that so? Since when is the Underwriters' Laboratories a charitable organization? Apparently the author of this bulletin does not know that the manufacturer is charged a fee for labelling (which includes inspection). Rest assured the manufacturer is not going to meet this expense out of his own pocket. Instead, he passes it on to the purchaser of his hose.

Many officials not at all familiar with fire equipment do not realize what performance of hose at a fire means

to the fire department in saving property as well as lives. For example, where it is necessary to put in operation heavy streams to check the advance of a fire of conflagration proportions higher pressures are required. Such excessive pressures may be above the specification requirements in pressure and the hose may burst just at the time when failure of streams may spell disaster. Here's where the higher grades of "trade mark" hose may stand up and render yeoman service while the "specification" hose may give way.

The "labelled specifications" are designed to give hose which is considered by the Laboratories' authorities to be the minimum reliable strength for fire department use. Any manufacturer who can build hose just strong enough to meet the specifications of the Laboratories gets his hose approved. He may have no excess strength whatsoever built into it.

There's a great deal of difference in having "specification" hose last but little over three years and having hose serve twenty-five years, such as a lot of one of the standard brands did in a New England city.

The majority of labelled hose sold is not built by the well established specialists who make only fire hose, but instead, is built by general rubber manufacturers producing anything from rubber door mats to hot water bottles. Naturally there is less experience and skill in the hose department of the latter factories than may be found in the fire hose specialist's plant where some of the workmen may have been engaged in building fire hose alone for a score of years, or longer.

Finally, "you usually get no more than you pay for" is an axiom which applies to fire hose as well as to any other line of products!

Unemployment and Building of Fire Houses

Ways and means of meeting the situation arising from the thousands out of employment throughout the country is now occupying the minds of city officials. One method of providing work for some of them presents itself through the building of new fire stations.

Many fire departments are in need of better housing facilities. In some instances Chiefs have from year to year inserted recommendations in their annual reports that such and such companies be provided with more modern and up-to-date stations to house the men and apparatus; or a certain locality is in need of a fire company to adequately protect it from fire. Perhaps such a location has long ago been decided upon in the minds of the fire department authorities as essential to the safety of the city and especially the particular locality involved. But these recommendations have been ignored by the council or whatever form of governing body has such matters in its control.

This lack of action may have arisen from economical motives—although such economy is of a very short-sighted nature. However this may be, the present situation provides a way out of the difficulty. The unemployment crisis is so acute that ordinary considerations of policy must go by the board and advantage must be taken of every opportunity to aid the jobless, no matter what it costs the city.

The erection of a fire station or similar structure provides an excellent opportunity to give work to the men out of employment, and at the same time meet a situation that has been in many cases holding over for a long time, and embarrassing the fire chief and his men in their endeavors to maintain fire safety in the city or town. No time should be lost in pushing such improvements to completion and thus relieve both the fire protection and the unemployment situations.

Famous Webster Hall in New York City Destroyed

Webster Hall long associated with New York City meetings and other events, was gutted by fire recently. Large amounts of water were poured into the blazing building.

Union Springs Proud of Its Record

According to D. M. Slaughter, State Fire Marshal of Alabama, "Union Springs has every reason to be proud of its Fire Chief, Henry J. Rosentihl." In the Chief's annual report is the information that the city has suffered a gross fire loss of only fifty-five dollars. The department protects property valued at $77,700.

In commenting on the low loss, Chief Rosentihl said:

"I can not help but believe that my continuous hammering away through the columns of *The Herald*, cautioning our people to make their homes and places of business 'fire prevention quarters,' has had much to do with the carefulness they have exercised in keeping down fires."

New Mexico Firemen to Meet in June

The eighth annual convention of the New Mexico State Firemen's Association will be held in Deming, N. M., on June 4-6. It will be combined with the short fire college course.

The school will consider such subjects as salvage and first aid, practical pumper operations, drill evolutions, chemistry of fire, fire department hydraulics, and gas and dust explosions. Instructors will include Capt. Frank J. Spillane and Mr. Warner, of Denver, Harry K. Rogers, of Chicago and Dean R. S. Rockwood, Prof. V. C. Keich and Prof. A. Diefendorf, University of New Mexico, Albuquerque.

A Goodfellowship Dance will take place the first day of the convention. It will be in charge of Julius Pearse, well known to fire department officials. In the last night, there will be a trip across the international border to Palamos, Mexico, as guests of the Deming Fire Department. Musical entertainment during the meeting will be furnished by the Clovis Fire Department Drum Corps and Orchestra.

Following are the officers of the association: Chief P. D. Miller, Socorro, President; Chief R. V. Miller, Clovis, First Vice-President; Chief Rue Chrisman, Roswell, Second Vice-President; T. A. Rosenwald, Albuquerque, Secretary-Treasurer.

Questions and Answers

NOTE—Readers are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified

Same Definitions

To the Editor:

Kindly advise me as to the answers to the following questions, and oblige:

1. What is meant by friction loss as applied to fire hose?
2. What is meant by back pressure?
3. What is meant by head?
4. How is pressure due to gravity measured?
5. What is velocity?
6. Find the cubical contents of lengths of 1½, 2½, 3 and 3½-inch hose.

E. V.

Answer 1. By friction loss in fire hose is meant the loss in pressure due to friction between the moving water and the lining of the hose. For an ordinary flow through the line of 2½-inch hose, the drop in pressure or friction loss is in the neighmorhood of 15 pounds per 100 feet.

Answer 2. By back pressure is meant static pressure, or pressure due to a column of water above the point being considered. Back pressure, or static pressure, depends upon the elevation of water above the point at which readings are being taken. 1 foot head gives static pressure of .434 pounds. 2.304 feet head gives a pressure of 1 pound per square inch.

Answer 3. By "head" is meant the depth of water above a certain point. It should be added that this depth is measured vertically from the surface of the water down to the point being considered.

Answer 4. Pressure due to gravity is measured in precisely the same manner as any other pressure, where there is no follow of the water.

Answer 5. By velocity is meant the rate of change of position of a body. Velocity may be uniform or it may be variable. If a body travels uniformly a distance of 1 foot in one second its velocity is said to be 1 foot per second.

Answer 6. One length of hose is 50 feet, or 600 inches long. cross section area of the hose $= .7854 \times D^2$. D is the diameter of the hose, or in this instance, 1½ inches.

Area $= .7854 \times D^2 = .7854 \times 2.25$
$= 1.77$ square inches

In one cubic foot there are 1728 cubic inches.

$1.77 \times 600 = 1062$ cubic inches (contents of one length of hose)

$1062 \div 1728 = .612$ cubic feet.

Employing the same procedure for 2½ inch we get:

$D = 2½$ inches, $D^2 = 6.25$

Area $= .7854 \times D^2 = .7854 \times 6.25$
$= 4.90$ square inches

$4.90 \times 600 = 2940$ cubic inches

Dividing by 1728, the number of cubic inches in one cubic foot we get: $2940 \div 1728 = 1.70$ cubic feet.

Now for 3 inch hose:

$D = 3$ inches, $D^2 = 9$

Area $= .7854 D^2 = .7854 \times 9$
$= 7.06$ square inches

$7.06 \times 600 = 4236$ cubic inches

$4236 \div 1728 = 2.45$ cubic feet

For 3½ inch hose we have:

$D = 3½$ inches, $D^2 = 12.25$

Area $= .7852$ $D^2 = .7854 \times 12.25$
$= 9.62$ square inches

$9.62 \times 600 = 5772$ cubic inches

$5772 \div 1728 = 3.32$ cubic feet.

Placing Water Tower

To the Editor:

We have had a battalion chiefs' examination and a question was asked which I would like to have you answer.

Question: How would you place the water tower on Main Street to get an effective stream on the 8th floor of a building?

Our water tower is 65 feet when extended. Main Street is about 70 feet from curb to curb.

Would you send me a formula as to how you would figure the pressure at the pumper to get this effective stream. Lines to the tower are 200 ft.

C. G. F.

Answer: In placing a water tower in operation at a fire, the maximum elevation of the stream should not exceed 45 degrees, if effectiveness of the tower stream is desired. Actually a greater effectiveness can be secured at an angle of around 30 degrees, but it is not always possible to secure such a low angle.

Assuming the maximum as 45 degrees, then the position of the tower may be determined as follows:

Extend tower to full height, 65 feet. Stream is to enter eighth floor, crossing the sill. Allowing 12½ feet per story, we have seven stories plus 2½ feet for the height of the sill, giving a total height from the ground to the sill of 90 feet. The sill is then 90 minus 65 or 25 feet above the height of the tower, extended. Remembering that 45 degrees is the maximum angle the stream should make with the horizontal, we have a triangle formed by a horizontal line drawn from the tower nozzle to the building, the face of the building between the 65 foot tower and the 90 foot point, and the line of travel of the stream from the nozzle to the sill.

In a 45 degree triangle, the two legs are the same length. In other words, the distance of the nozzle to the building will have to be 25 feet.

This gives you your answer: The tower should be placed so that the nozzle will not be less than 25 feet from the building, in order to get an effective stream into the eighth floor.

To figure the pressure necessary at a pumper, operating to two parallel 200 foot lines of hose, in order to give a certain pressure at the tower nozzle we proceed as follows:

Assume a nozzle diameter and a nozzle pressure, which are not given in your problem. Nozzle diameter may be taken as 1½ inches. Nozzle pressure for 1½ inch nozzle should be between 60 and 90 pounds, and 75 pounds will be taken.

The problem does not state the diameter of the hose, but it will be assumed that each line is 2½ inches in diameter, and that two lines are used.

First, solve the problem for nozzle pressure assuming that the engine is pumping through two parallel lines fitted on the end with 1½-inch nozzles (neglecting for the time being the water tower).

Engine pressure $= N P \times (1.1 + K \times L)$

Where K is the factor depending upon the size of the nozzle and the layout of the hose; and L is the number of 50 foot lengths from the engine to the nozzle.

K, for the two parallel lines of 2½-inch hose, equipped with 1½-inch nozzle is 0.135.

L, the number of lengths between the engine and nozzle, is 200 divided by 50, or 4.

Then E.P. $= 75 \times (1.1 + .135 \times 4)$
$= 75 \times 1.64 = 123$ pounds.

This engine pressure is only sufficient to overcome the friction loss in the hose and give 75 pounds at the nozzle. To this must be added the back pressure in the water tower, when extended, and the friction loss in the water tower.

Back pressure $= 65 \times .434$ or 28.2 pounds.

Friction in the water tower is taken at 15 pounds.

The corrected engine pressure is $123 + 28 + 15$ or 166 pounds. approximately.

Placement of Fire Alarm Box

To the Editor:

Will you please answer the following questions through the columns of FIRE ENGINEERING?

The Borough of Haledon is using the Gamewell fire alarm system and expects to put in some additional boxes; one of them is to go in the immediate vicinity of Fire Co. No. 2. This fire house is on a main road where many automobiles pass and is closed every night about 11 or 12 p. m. There is a red light left burning all night outside the fire house, and there is no way of sending in an alarm from the fire house.

Do you think the proposed box for this vicinity should go on the fire house under the red light or one block away on a pole with no light?

S. G. O.

Answer: In view of the fact that persons would normally go to a fire station for help in case of fire, and furthermore considering that the fire station is closed during certain hours of the night, it would be far better to have a fire alarm box placed in front of the fire station than at a point a block or so away.

The best plan, however, in placing fire alarm boxes is to provide one fire alarm box per block. Such an arrangement certainly speeds up response of the department, and may pay for itself at a single fire, where the apparatus is brought to the scene a couple of minutes earlier by convenient location of boxes.

A Device of Value on Unpaved Roads

Through the ingenuity of a fireman stationed on Staten Island, New York City, a simple implement has been designed that is of immeasurable value to companies responding to fires on unpaved dirt roads.

Traction Mud Hook Used on Staten Island Apparatus

The fireman is shown with one of the hooks in his hand, while three others are shown attached to one of the rear wheels of the apparatus.

Many times in responding to fires, apparatus in this borough rolled over a soft spot and went down almost to the hubs. In such cases it was necessary to have the assistance from another car or a wrecker.

The "traction mud hook" is a piece of three by three-inch angle iron, about the same size and width as the tire. A strap of flat iron 1¾ by 5/16-inch is attached to the angle iron by means of rivets, and shaped to fit around the rubber tire and rim of the wheel. The open ends of the strap are connected with a ⅝-inch bolt. A piece of one-inch pipe between the open ends of the strap form a separator.

In operation, the hooks are clamped to the rear wheels of the apparatus in about the position shown. When the clutch is thrown in and the wheels revolve, the angle iron in driving forward packs the soft earth into a hard mass and furnishes sufficient traction for the truck to get out of the hole. The hooks are easily attached or removed from the rear wheels.

This is but one of the many devices presented by Staten Island companies to the Board of Merit, New York Fire Department.

Thieves Rifle Firemen's Lockers—Thieves rifled the lockers in the quarters of Engine Companies 13 and 21 of the Boston Fire Department while the firemen were absent from the houses.

Lieutenant Injured in Apparatus Run—Lieutenant George Smith of Company 19, Boston, sustained a fractured arm and contusions when he slipped and fell beneath the engine as it was slowing up before a hydrant at a two-alarm fire.

SUGGEST USE OF ZONES IN MUTUAL FIRE-FIGHTING PLAN

Westchester Fire Chiefs' Emergency Plan Holds Regular Meeting at Greenwich, Conn. —Liability in Outside Assistance Discussed

A PLAN of cooperation by the formation of zones was suggested at the regular meeting of the Westchester County Fire Chiefs' Emergency Plan, an organization of the fire departments of that county which met by invitation of Chief James Sullivan at Fire Headquarters, Greenwich, Conn., on March 19. Chief George S. Towle, Larchmont, N. Y., President, was in the chair. The tentative plan for the first zone was read by Secretary Riviere, in the absence of Chief Snelling, of Carmel, N. Y. This included the towns and villages within a sixteen-mile radius. The plan would call for apparatus from the next town to cover the house of the outgoing apparatus, and the other towns to severally cover the houses with apparatus in the zone until the return of the first alarm apparatus.

This, it was explained, was a tentative plan of procedure which would eventually form a basis for the division of the entire county into similar zones, through which a systematic plan of assistance in case of need could be evolved. It was moved that Chief Travers, of Peekskill, Chairman of the Zoning Committee, be requested to submit the full plan of Zone One to the Secretary, so that copies could be sent to other chiefs of the Plan for their guidance in forming other zones.

A letter was received from the Westchester Lighting Company, supplying electricity for lighting to many cities of the county, in regard to the proposed orange fire box light globes, to take the place of the present red globes. With this was enclosed a communication from the Department of Water Supply, Gas and Electricity of New York City, in which it was stated that the globes in use in New York City were painted with two coats of orange paint and no globes were manufactured with the color incorporated in the glass at the time of its manufacture. The letter was referred to Chief Griffin, of White Plains, Chairman of the Committee on Lighting.

Chief Mulcahey, of Yonkers, N. Y., spoke of a bill on overinsurance which he said would be introduced into the state legislature, which was an excellent measure and contained teeth. It would make a misdemeanor for the agent to refuse to give information to the Chief as to the amount of insurance carried by the insured. The Chief would have power to have the amount reduced if considered more than necessary.

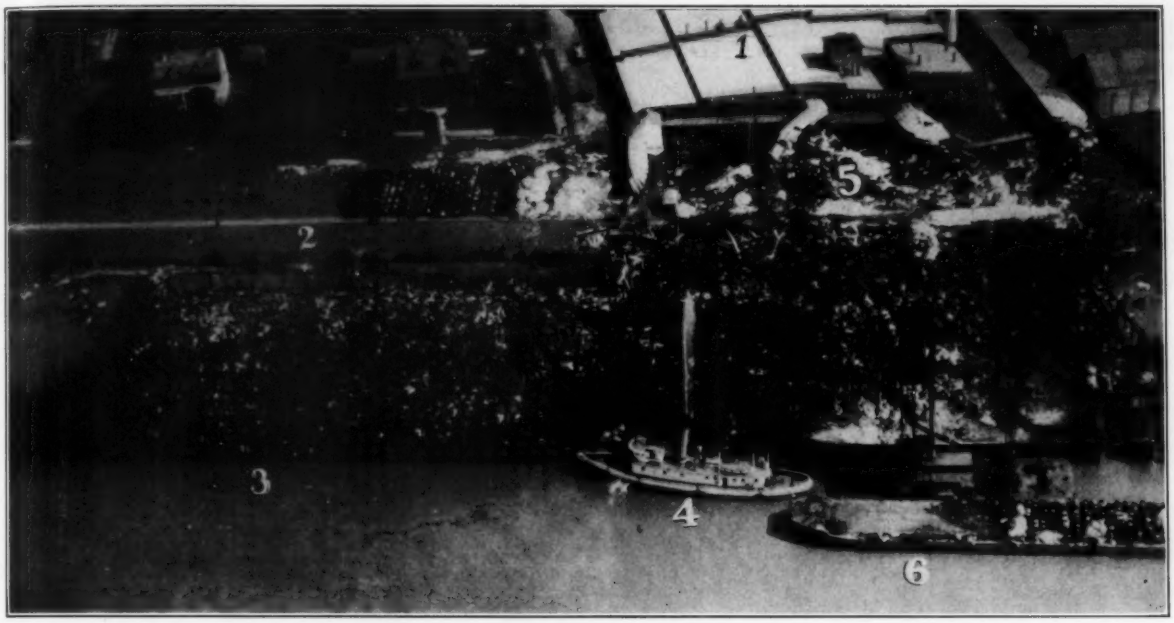
There was considerable discussion on the subject of the responsibility of members of fire departments rendering assistance outside of their own city. Judge Harry M. Hoop, of Bronxville, said that the State Association is endeavoring to have the law changed in respect to the matter of responsibility of the department receiving the assistance for injuries to those assisting. In order to bring this about, he said, there would have to be special legislation. The matter was left to Judge Hoop.

The next meeting, it was decided on the invitation of the President, would be held at Larchmont, N. Y., on Wednesday, April 16. The Treasurer reported a balance in the treasury of $83.42. Six new members were elected.

Those present at the meeting were:

Judge Harry M. Hoop, Bronxville
Fire. Com. J. B. Anderson, Cos Cob
Chief Arthur Steuhl, Bronxville
Chief Conway, E. Portchester
Chief James Sullivan, Greenwich
Chief Frank Baker, Glenville, Conn.
Lieut. Morton P. Garfaty, Mamaroneck
Lieut. Hanson, Mamaroneck
Chief H. E. McTavey, Mt. Kisco
Chief John Gibson, Mt. Vernon
Fire Com. Fred G. Merkle, Mt. Vernon
2nd D. Chief, John Carroll, Mt. Vernon
P. Lennon, Mamaroneck
Chief Walter Jones, New Rochelle
J. M. Spader, N. Y. City
Supt. Andy Bell, Portchester
Chief Geo. Tirvle, Larchmont
Lieut. E. Riviere, Larchmont
Deputy Chief Hagleston, Larchmont
Deputy Chief Peterson, Larchmont
Chief D. Wiley Travers, Peekskill
Deputy Chief McGuire, Peekskill
Chief Geo. Brickett, Portchester
Chief Archer Guion, Pleasantville
Second Asst. Chief Walter Mertz, Portchester.
Ex. Chief Hickson K. Strang, Peekskill
Chief Chet. Dobbs, Scarsdale
Asst. Chief Frank Lambert
Chief Abott Grifen, White Plains
Capt. Wm. Cothern, Peekskill
Second Lieut. David Gross, Peekskill

(*Continued on page* 290)



Courtesy, Times-Picayune, New Orleans

Portion of the Anderson-Clayton Warehouse Where Fire Occurred

1—Section of the building, which extends back five hundred feet. 2—Levee, extending along the front of docks and warehouse. Docks on which cotton was stored and which burnt. 4—Fire Tug Samson. 5—Directly in front of the warehouse, cotton stored in yards and sheds; this was also on fire but the blaze was stopped at the warehouse entrance. 6—Salvaging cotton and loading on barge. The steamship Scantic was moored just where the fireboat is working from.

SIX PERSONS LOST AND SHIP DAMAGED IN WATERFRONT FIRE

Firemen Unable to Reach Steamship Moored to the Docks—Blaze Well Under Way When First Companies Arrived

SEVEN persons lost their lives as the result of burns received from a fire that destroyed the sheds of the Anderson, Clayton, Docks and Steamship Company, at the lower river front, New Orleans, La. Two alarms were turned in and the fire tugs Samson and Deluge were called.

Courtesy, Times-Picayune, New Orleans

Chief Evans Examining the Dock After the Fire

The docks were five hundred feet in length and the cotton compressors occupied a space of two squares or blocks. The buildings were fifteen years old and were one story high. They were constructed of frame and hollow tile with partition walls. Sprinkler equipment was provided.

The cause of the fire is unknown. The blaze started in the sheds and docks—the first alarm was received at 6:08 p.m. This brought four pumpers, one ladder truck and an assistant chief. The second alarm brought three pumpers, one ladder truck, one assistant chief and Chief Evans. In addition, five pumpers were despatched in accordance with telephone calls.

There were six hydrants available and water was supplied at sixty pounds pressure, from six-inch mains. In all, twelve streams were directed on the blaze.

There were approximately 20,000 bales of cotton on the wharf. The Scantic, which was scheduled to sail for Italy, was damaged to the extent of $50,000 and the loss on buildings was $177,000. Fire companies operated for four hours.

The wharf was constructed of heavy wood plank floor on creosoted wood beams and piling. Private protection consisted of standpipe and hose, two 40-gallon chemical engines and supervised watchman service.

The fire was discovered at about 6:07 p.m. at the downstream end of the wharf practically simultaneously by the dock board watchman and an Alabo Compress watchman. The alarm was turned in at once. So rapid was the spread of flames over the cotton that a second alarm was turned in at 6:13 p.m. By that time the entire wharf was ablaze and a general alarm was turned in shortly afterwards bringing to the scene all available apparatus. The fire boat Samson was anchored in the fore bay of the Industrial canal, about one-half mile from the fire, and arrived at the scene about 6:20 p.m. The fire boat Deluge, stationed upstream from the fire a distance of about five miles, arrived at 6:30 p.m. The operations of both fire boats were delayed for a while until the steamship Scantic, which was docked at the wharf, could be towed into the river. The intense heat and smoke of the fire, fanned by a stiff offshore breeze, kept both fire boats beyond effective working distance of the wharf and allowed the collapse of the wharf sub-structure.

The fire department, finding it impossible to combat the fire ranging beneath the wharf floor, confined its efforts to preventing the spread of the blaze into the compress and warehouse of the Alabo Compress, in which they were successful, and to the extinguishment of the cotton, which continued to burn for two days afterwards, and several minor fires broke out among bales of salvaged cotton due to flying sparks.

Due to the extreme rapidity with which flames spread throughout the wharf the crew and visitors aboard the steamship Scantic were unable to reach shore through the wharf, which was their only means of exit, and were forced with the alternative of either jumping into the river or chancing rescue from the ship. Three lives were lost due

to burns or suffocation and three men were drowned when they jumped from the boat to the river. Approximately eleven others received treatment at local hospitals for burns and exposure.

Paint Shop of "Big Four" Destroyed

Fed by hundreds of gallons of paint, a fire that is believed to have been started by spontaneous combustion destroyed the large paint shop of the Big Four Railroad at Beech Grove, Ind., a suburb to Indianapolis. Twenty-five passenger coaches that were in the shop for repainting were badly damaged.

The shop was 184 feet wide and 444 feet long, one story high. From the bottom of the truss to the ground was

Damage Done by Fire to Railroad Cars in Paint Shop

thirty-eight feet. The shop was constructed of brick and steel nineteen years ago. It had no sprinkler protection.

Fire started in the northwest section of the building at 9:15 p.m. The entire building was gutted before the fire was declared out at 8:30 a.m. the following day.

At first the blaze was fought by eighteen men from the Beech Grove Shop Fire Department and later a call was sent to the town fire department. Indianapolis sent twenty-five men to help.

Eleven hydrants were available in the immediate vicinity of the fire. Water was supplied by a twelve-inch main

Courtesy, Indianapolis News

The Huge Railroad Paint Shop After the Fire

through the hydrants at sixty pounds pressure and this was later increased to 110 pounds. Five pumpers were used and eight streams directed on the burning building. The outside aid furnished consisted of one pumper from the town of Beech Grove and four pumpers from Indianapolis.

The loss on the building has been estimated at $280,000 while that of the contents has been fixed at $512,000.

Boston Orders Razing of 1,600 Fire Traps—Mayor Curley of Boston, Mass., has ordered the razing of 1,600 condemned buildings which are regarded as fire-traps.

WHAT'S BURNING

THE following list includes fires of $25,000 loss and over in the United States and Canada, for the periods designated in the headings. These figures, compiled from telegraphic reports, are based on estimates made at the time, and are subject to later investigation and consequent revision. Taken as a whole, however, they give an approximately correct view of the losses incurred. The figures represent loss in thousand.

Week Ending March 21

SALT LAKE CITY, UTAH—Central Bldg damaged	25
SOUTH EVERETT, MASS.—Plant of Merrimac Chemical Co.	400
ARVERNE, L. I., N. Y.—Landau Garage and contents	65
LEON, IOWA—Garden Grove school bldg. destroyed	50
PITTSBURGH, PA.—C. R. Moore Lithographing Co. bldg.	25
ST. AUGUSTINE, FLA.—Whse. of Pellicer & Peters Co.	80
HARROGATE, TENN.—Avery Hall destroyed	125
N. WEYMOUTH, MASS.—Fort Point Hotel, adj. cottages	40
CRIVITZ, WIS.—St. Paul Hotel destroyed	25
BIG RAPIDS, MICH.—Mill property of Ward Bros.	150
FLINT, MICH.—Patterson Bldg. destroyed	250
CANTON, MASS.—Storehouses of Addison Leslie Co.	45
M'GREGOR, IOWA—School building destroyed	65
LEONARDO, N. J.—Summer home of Chas. Rosenweig	25
PATERSON, N. J.—Janowitz Mill damaged	80
WILLIAMSBURG, VA.—Science bldg., William & Mary College	80
SPOKANE, WASH.—Bldg. occupied by Fairmont Creamery	40
ELLSWORTH, ME.—Hancock County Court House bldg.	150
S. PLAINFIELD, N. J.—Hangar and 13 planes destroyed	150
IOWA CITY, IOWA—Plant of Iowa City Press-Citizen	40
YORK, PA.—Property of J. J. Landes and Penn Fiber Co.	40
DETROIT, MICH.—Bldg. occupied by American Upholstery Co.	200
WINNIPEG, MAN.—Victoria School destroyed	25
DENNISPORT, MASS.—School buldg. destroyed	35
KETONA, ALA.—Jefferson Co. Convict Camp No. 2 damaged	40
BRIDGEWATER, MASS.—Factory of White Shoe Co.	25
SHARON, PA.—Planing mill of J. M. Hoagland Co.	125
PHILADELPHIA, PA.—Adelphia Hotel damaged	40
CHIMNEY ROCK, N. C.—Logan Inn and adj. buildings	65
ELK CITY, IDAHO—Entire community destroyed	175
LIVONIA, N. Y.—Main Street business property	65
KNOXVILLE, TENN.—Arcade bldg. adj. property	200
KINSTON, N. C.—Grand Theatre bldg. destroyed	65
MOUNDS, OHIO—DeBord Bros. store destroyed	35
WAYNESBURG, OHIO—Plant of National Fireproofing Co.	80

Week Ending March 28

JACKSON, MISS.—Bldg. occupied by the Muskin Furniture Co.	40
VALLEY FORGE, PA.—Two barns on estate of A. D. Irwin	25
ERIE, PA.—Marks bldg. damaged	80
PLAINFIELD, N. J.—Queen City Hotel damaged	25
LAKE GENEVA, WIS.—Barn on Grimmes estate destroyed	25
CANTON, PA.—Canton House and adj. property	45
BINGHAM, ME.—Garage and machine shop, Central Main Power Co.	40
MANSFIELD, OHIO.—Plant of Cleveland Milling Co. damaged	25
MUSKEGON, MICH.—Regent Theatre damaged	25
SAGAMORE, MASS.—Sagamore Inn, adj. property	175
WINCHESTER, VA.—Plant of Bructown Woolen Mills	40
MOLINE, ILL.—Palace Theatre bldg. destroyed	70
MILAN, ILL.—C. O. Swanson's garage and home	35
KALAMAZOO, MICH.—C. C. Houston flour mill	40
LANDIS, N. J.—Farm property of James Tiffany	30
E. PROVIDENCE, R. I.—Pier of N. Y., N. H. & H. Railroad	400
LOUISVILLE, KY.—Breslin bldg. damaged	40
MONTREAL, QUE.—Business and residential property	300
SCOTLAND NECK, N. C.—Plant of Columbia Peanut Co.	40
NEWARK, N. J.—Hangar of Newark Air Services, Inc.	35
STOVALL, N. C.—Store and apt. bldg. destroyed	30
SEYMOUR, IND.—Wolf shoe factory destroyed	125
WESTFIELD, N. Y.—Business property damaged	30
RICHMOND, KY.—Whse. of Home Tobacco Whse. Co.	60
ALTON, ILL.—"Bell of Calhoun" destroyed	40
STE. GENEVIEVE, QUE.—Property of D. S. McMaster	70
SPRINGFIELD, ILL.—Plant of Poston Brick Co.	40
BOONEVILLE, IND.—Whse. of Larrimore Tobacco Co.	35
SOUTH BYFIELD, MASS.—Congregational Church destroyed	25
GARY, IND.—Apartment building destroyed	125
DESPLAINES, ILL.—Business bldg. destroyed	65
EDEN, N. Y.—Lumber yard of Ivan Nagle	40
INDIANAPOLIS, IND.—Virginia Ave. business property	30
DAVISON, MICH.—School bldg. destroyed	65

Sandusky, O., to Buy Aerial Ladder—Sandusky, Ohio, will soon invite bids for the purchase of a new aerial ladder truck.

Castile, N. Y., to Vote on Bonds—Castile, N. Y., is to vote on a contemplated bond issue of $5,000 for the purchase of fire apparatus and equipment.

J. A. Prescott in Charge of Motor Sales—J. A. Prescott, formerly with the Ahrens-Fox Fire Engine Co., is sales manager of motor fire apparatus for the Buffalo Fire Appliance Company in the Metropolitan district. J. J. Egan is in charge of sundry sales in this district.

Portsmouth, O., Not to Answer Outside Calls—Chief Robert Leedom of Portsmouth, Ohio, was instructed not to answer out-of-city calls. Sixteen nearby townships will be without fire protection as a result. A city ordinance prevents the city fire equipment from answering any calls outside the city where there is not a contract providing for the payment of these calls.

NEW YORK CITY PROBING BLAME FOR PATHE FIRE

Chief John Kenlon Against Permit for Studio—At Later Meeting Assistant Chief Martin Spoke in Favor of Awarding the Permit

ON December 10, 1929, a fire in the Pathe Sound Studio at 134th Street and Park Avenue, New York City, caused the loss of ten lives—four young women and six men. The fire was reported in detail in the December 25 issue of FIRE ENGINEERING.

On March 26, 1930, the Chief City Magistrate of New York City, closed his inquisition into the matter with findings reported here in abridged form.

A few days prior to the Chief City Magistrate's findings, the March term of the New York County Grand Jury refused to indict two officials of the Pathe Sound Studios who had been under arrest for manslaughter but released on bail since a few nights following the fire. At that time newspaper reporters observing attempts to surreptuously remove about 243,000 feet of film from the ruins of the fire, told the Police Commissioner and he caused the arrest of the two officials.

For the illegal presence on the premises of an amount of film in excess of 5,000 feet, the two studio officials were fined $500 each, in still another court for violation of a city ordinance. They paid the fine under protest to fortify themselves in an appeal from the conviction.

The manslaughter charges had dragged along in the magistrate's courts for weeks—one adjournment after another, until the bereaved mothers of two of the show girls in the cast who perished, went to the District Attorney and complained of the incessant postponements and their consequent inconvenience. The prosecutor snapped the case out of the district court and laid the facts before the Chief City Magistrate. Judge McAdoo conducted many lengthy sessions. Recently he found among other things, that the loss of life was due to the absence of a sprinkler system in the studio which the studio was required by law to have, if more than 5,000 feet of film was in the premises.

Eleven years ago, the Board of Standards and Appeals, the appellant tribunal from which relief is sought for administrative orders of the Fire, Building and Tenement House Department, passed upon the case and permitted the studio to operate conditionally; that condition being the limitation of the amount of film on hand to 5,000 feet. Here in part is what the Chief City Magistrate handed down:

"Apparently there was no coordination and official interlocking of responsibility between the uniformed force of the Fire Department, the Bureau of Fire Prevention and the Board of Standards and Appeals.

"This makes it difficult, if not impossible, to make out a case against individuals which could meet the requirements of the law.

"The order for the sprinkler was made March 26, 1919; the case came up on appeal on June 17, 1919, before the Board of Standards and Appeals. At the first meeting of the Board when this matter was taken up, as shown by the stenographic record of the meeting, were present the members of the Board including Fire Chief John Kenlon. The outstanding feature was the sprinkler system and here is what Chief Kenlon said about conditions:

"Chief Kenlon: 'In voting, I do not want it to be understood or construed that the compo board stuff is fireproof at all; that stuff will burn like tinder; it is alright in a way for some things, but I am not approving it.'

"Chairman (The late John P. Leo): 'Now we will vote on automatic sprinklers, motion to reverse Fire Commissioner and grant the appeal.'

"Chief Kenlon: 'I will vote 'no' on that. You understand in a motion picture studio they have all kinds of inflammable material. They build sets, houses and trees and streets and everything else you can think of, and it is built of papier mache. I will not vote for it. It is not fireproof, it is hazardous.'

"Chairman: 'It is only one story, fire-proof and well separated from any other structure on a corner.'

"Chief Kenlon: 'There are any number of studios that do not come before the Board, but in every case the plans will show that they are putting in automatic sprinklers. No reason to let these (Pathe) people go; it would be letting down the bars; it is dangerous business. Granting that it is only one story; some night when the fire-boat (meaning Engine Co. 87,300 feet away) is somewhere else, it (the studio) will get going, sure. Films are stored in the vault, but it is the stuff on the floor; the sets they use for scenes; they build a village in Russia. It is tinder, all of it.'"

Chief City Magistrate McAdoo, continued in his findings: "When the vote was taken, it showed four to two in favor of reversing the order of the Fire Department and modifying the order by requiring the installation of four standpipe lines, and which, it was demonstrated during the actual fire were of no service at all.

"The motion to revoke the order of the Fire Commissioner," Judge McAdoo continued, "was defeated because it required seven votes to reverse the mandate of the Fire Department. One week later, on June 24, 1919, the Board of Appeals reconvened at a regular weekly session and this time, Assistant Fire Chief Joseph B. Martin was Acting Fire Chief in Kenlon's absence. (Chief Kenlon was in Kansas City at the convention of the International Association of Fire Engineers, where he was elected President of the Association.)

"Chief Kenlon who had so vigorously opposed the revocation of the Fire Department was absent," the Magistrate continues, "but I questioned Chief Martin as to whether Chief Kenlon told him as to his attitude about the matter before he made Chief Martin his substitute, but he had not. There is no evidence on that point because of the absence of Chief Kenlon who is sick, as to why he did not himself attend and follow up his protestation in favor of the installation of a sprinkler system and why he substituted Chief Martin in his stead." Due to Chief Kenlon's present illness, Judge McAdoo was unable to require his attendance at the inquiry, and nobody, including Chief Martin when he was on the witness stand on Monday, March 24th last, undertook to inform the Court that Chief Kenlon's absence from the June 1919 meeting of the Board of Appeals was due to his attendance at the Fire Chiefs Convention in Kansas City.

"The contrast between the opinions of these two heads of the Fire Department is quite startling" the Magistrate went on, "and above I have quoted what Chief Kenlon said, while here is what Chief Martin, his substitute, said regarding the same building when the question was asked if the scenery was combustible or made of asbestos:

What Will They Be Asked To Do Next?

There is no telling what a fireman may be called upon to do when the apparatus rolls from the station. At an apartment house fire in New York City, some woman was severely burned when gasoline exploded in her apartment. She seized her baby and managed to crawl down the rear fire escape. It then became the duty of one fireman to pacify the infant until more expert attention could be obtained.

"Chief Martin: 'It is beaver board in wooden frames. Some people are of the opinion that studios have the same fire hazards as theatres; that is not so. I can speak from personal observation for I made two visits to this establishment.

"I met Mr. Finch when I made my visit there. He did not know I was Chief Martin. I went there on the order of the Board of Hazardous Trades and was shown over the building. The balcony runs around three sides of the building; that gives them one floor devoted to the operation of the films; and films in studios are not films in exchanges. They only carry enough to develop the picture and from the studio, film is always in transit, negatives only are prepared there, then put into boxes, sent to New Jersey, and brought back and sent to the exchanges.

"'There is no life hazard there. I have had long experience and I think, constructed as this building is, only two stories, and with broad fire escapes, that you could take a regiment up, that if this building gets on fire, it deserves to burn, for it would have to be their own fault. Another thing that prompts me to speak for the safety of the people in the building, they have a line of distribution now furnished with six outlets, hose attached. There are eight outlets altogether in the building. I saw a picture operator there, but there was no scenery. This line of pipe is always charged by gravity; they have 50 pounds pressure in the street mains and ample distribution to settle any fire. The cellar is the real hazard. It is used for a carpenter shop. One vault with three or four thousand feet of film. I verified that.'

"Chairman: 'We have a full statement of facts now, that we did not have last week. Anyone as familiar with it as Chief Martin is ———.'

"Chief Martin: 'Yes, I move to grant the appeal. It is the best equipped building for people to get out of that I know of; that's the reason I vote this way.'"

At this point in his findings, Chief Magistrate McAdoo, points out that it is in evidence that Chief Martin knew nothing himself whatever about the actual conditions at the time he was voting against the installation of a sprinkler system. When pressed by the Judge as to how he hoped to reconcile his most recent testimony that he had never visited the studio with his statements to the Board of Appeals on June 24, 1919, when he voted against the sprinkler installation, Chief Martin said that his statements eleven years ago were predicated on the presentation of the facts then before the members of the Board in the case on appeal.

Judge McAdoo has recommended that in the future an able lawyer be assigned to the Board of Standards and Appeals to guide the lay members in their public responsibilities.

WM. JEROME DALY.

Department Badge Presented to Citizen—Mayor James M. Curley of Boston presented a suitably engraved fire badge to a prominent Boston broker in recognition of his heroism in extinguishing the burning clothing of a workman employed in razing the old Federal building.

English Company Offers a la Carte Service

A fire company at Ripley (Surrey) England has a fixed charge for its services, and in addition to extinguishing fires, the horses may be hired, a watchman secured, and so forth. The company was founded nearly forty years ago and is supported by voluntary subscription. The photographs shows the scale of charges adopted.

Many Attend Box 52 Meeting

There was an attendance of 125 members and guests at the meeting of the Box 52 Association held at 30 Huntington Avenue, Boston, Mass., on the evening of March 19. Addresses were made on the Boston Fire Survey Report and motion pictures were shown of the Pollard Department Store Fire in Lowell, Mass.

The speakers were Franklin H. Wentworth, Managing Director of the National Fire Protection Association; Percy Bugbee, Assistant Managing Director, N. F. P. A.; William W. Ollendorf, of West Medway, Chairman of the Special Commission on Revision of State Fire Laws; Kenneth F. Akers, Consulting Engineer; and Edward W. Roemer, Acting Building Commissioner of Boston.

P. Hildreth Parker, of Belmont, President of the club, directed the proceedings. Among those attending were Chief Daniel F. Sennott, of the Boston Fire Department; Assistant Chief Henry A. Fox, Deputy Chief Thomas H. Downey, Deputy Chief Walter M. McLean, Deputy Chief William F. Quigley and District Chief Samuel J. Pope, all of the Boston Fire Department; Supt. George H. Bowen, of the Boston Automatic Fire Alarm Company; Chief Clarence W. Randlett, chief of the Newton Fire Department; Cameron De W. Jarvis, staff engineer of the New England Telephone and Telegraph Company; J. Fred Nelson, Division Plant Engineer, New England Telephone and Telegraph Company; G. K. Manson, Chief Engineer, New England Telephone and Telegraph Company; Chief Henry J. Harrigan, of the Dedham Fire Department; John S. Caldwell, Asst. Secretary, New England Insurance Exchange; Chief R. F. Breagy, of the Dover Fire Department; Chief Edward W. Taylor and Assistant Chief E. F. Buttrick, of the Lexington Fire Department; Lewis E. MacBrayne, General Manager of the Massachusetts Safety Council; Arthur W. Senter, Division Superintendent, and A. J. Blackburn, Architect and Engineer of the Boston Elevated Railway; C. W. Mowry, Assistant Manager of the Associated Factory Mutual Insurance Laboratories; H. E. Magnuson, of the Inspection Department, Associated Factory Mutual Insurance Companies; D. D. Barnum, President, and W. C. Beckford, Vice-President and General Manager, Boston Consolidated Gas Company; George C. Ambrose, of the Consolidated Gas Company; Nelson Whitney, Manager of the Boston Fire and Police Notification Co.; Frederick Blake, Manager of the Back Bay Patrol and Emergency Service; Frederick E. Fay, Vice-President of the Exchange Trust Company; Charles J. Curtaz and William F. Lehman, of the Boston, Revere Beach, and Lynn Railway; H. Belknap of FIRE ENGINEERING; William E. Dolan, of the Boston *Herald*; and William A. Tighe, of the Boston *Globe*.

HARRY BELKNAP.

CORRESPONDENCE

Low Fire Loss

To the Editor:

We have read with a great deal of interest several remarkable records of low losses from fire, in recent issues of FIRE ENGINEERING, Beaufort, S. C., experienced such a low loss during 1929 that we feel we have a right to be rather "set up." The Fire Department answered sixteen alarms during the year, used about two hundred gallons of chemical, laid no water hose, and in only one case did the damage amount to as much as $100. The value of property involved was $122,000 and the total loss was the remarkable sum of $356.50. In no case did the fire get out of the corner of the room in which it originated.

The personnel of the Department is wholly volunteer and the equipment consists of one American-LaFrance type 75 triple combination, one Stewart commercial truck, one Silsby No. 4 Steamer and about 3,000 feet of 2½-inch double jacketed rubber lined hose. Of course small chemicals, ladders, axes, etc. are included.

Beaufort is an old town of about 3,500 with approximately 95% of its buildings of frame construction mostly with shingle roofs. The present department was organized in 1874 and has fought several very disastrous fires.

Considering the hazards and especially the frame construction in our congested district, we say again that we feel we are justified in feeling proud of our achievement in 1929.

Very truly yours,

H. T. DANNER, JR.,
Chief Fire Department, Beaufort, S. C.

Taylor, Tex., Invites Apparatus Bids—Taylor, Tex., has invited bids on a 1,000-gallon pumper.

Chief Kellogg Completes 40 Years' Service

When Chief George M. Kellogg, Sioux City, Ia., returned to his fire station from his daily inspection, he found a large cake waiting for him. It was somewhat of a birthday cake for it was intended to commemorate his fortieth anniversary in the fire department.

He is credited as being the dean of chiefs and the oldest man in point of service. He first became chief in 1889 and was chief for five years. Chief Kellogg was out of the department for one year to enter business, but at the end of the year, he was again head of the department. When he was first appointed, there were eighteen firemen and four companies in service. Today the department has ninety-six men and twelve motorized companies.

No members are left in the International Association of Fire Chiefs who were members when Chief Kellogg joined.

Chief Charles E. Swanson Honored

A large gathering of city officials, presidents of civic organizations, and representatives of fire departments gathered at the Elks Club, Everett, Wash., to honor the twenty-fifth anniversary of continuous service in the fire department of Chief Charles E. Swanson.

The party was arranged by the Everett Fire Department, and the chief was presented with a solid gold badge. Captain W. A. Groce, Assistant State Fire Marshal at Olympia, served as toastmaster. The presentation speech was made by Chief George Mantor of Seattle. Some of Chief Swanson's closest friends learned for the first time that he was a real honest-to-goodness Swedish count.

Among the many present were Chief George M. Mantor, Seattle; C. E. Carlson, Tacoma; Joe Wood, Renton; W. E. Ropes, Sedro Woolley; Joe Schlanser, Mt. Vernon; Ed. Hinkley, Snohomish, and Charles Tracey, Arlington. The Seattle Fire Department Orchestra furnished music for both the banquet and the dance which followed. All the guests present reported having a most enjoyable time.

Two Ellsworth, Me., Firemen Killed

Two firemen were killed and two seriously injured in a fire which destroyed the Hancock County Courthouse in Ellsworth, Me., on March 14.

The four firemen were on the second floor of the 3-story brick building when a cupola crashed through the roof and carried them down to the basement.

Chief R. J. Goodwin, of Ellsworth, called aid from Bar Harbor. The loss was estimated at $300,000. The blaze, which was discovered at 3:35 a.m., is believed to have been caused by defective electric wiring in the 40-year-old building.

A gale of wind was blowing at the time of the fire, but a heavy rain had wet down roofs, so danger from flying embers was eliminated. Blue Hill and Bar Harbor sent motor apparatus to aid the Ellsworth Fire Department.

Kelly Appointed Chief of Douglas, Ariz.

Hugh A. Kelly, Assistant Chief of Douglas, Ariz., was appointed head of the department to fill the vacancy caused by the death of Chief W. Nemeck, January 6, 1930.

The late chief was appointed head of the fire department January 31, 1909 and held this position until his death. He was fifty-seven years old. He was a member of the Masons and the Knights of Pythias.

Chief Kelly joined the department July 12, 1911 and was appointed Captain the following year. In 1916 he was promoted to Assistant Chief.

Civil War Papers Lost in School Fire

Records dating back to the Civil War period were lost when fire destroyed the public school building in McGregor, Ia. Aid was rushed from Marquette, Elkader, Monoma and Postville. The first alarm was sent at 3 p. m.. and a second one at 4 p. m. By five o'clock, nothing was left but the smoldering ruins. Part of the building was erected during the Civil War. The loss was $50,000.

Boston Has New Assignment Card—Superintendent Peter E. Walsh of the Boston Protective Department has made out a new assignment card which eliminates much unnecessary running by the protective companies to alarms in the outlying residential districts.

Worcester Insurance Patrol Head Dead

William H. Guertin, Superintendent of the Insurance Fire Patrol of the Worcester, Mass., Protective Department, died at the Palmer Memorial Hospital in Brookline on March 19, after an operation.

He had been superintendent since 1912, having succeeded the late Hiram R. Williamson, the first head of the organization.

The Late William H. Guertin

Supt. Guertin joined the patrol as a private thirty-five years ago. Under his direction the motor equipment was installed and the patrol became recognized as one of the most efficient fire salvage corps in the country. He originated a system of fire loss accounting that is a model for completeness in statistical detail.

He was a member of the Fire Chiefs' Club of Massachusetts, the New England Association of Fire Chiefs, and the International Association of Fire Chiefs.

The funeral was held on March 21 with services in the chapel of the Caswell-King Company, 835 Main Street, Worcester, with the Rev. Harry Minnick, pastor of the First Church of Christ, officiating. There were many beautiful floral tributes, including two huge pieces carrying the lettering "Our Superintendent" and "Our Comrade."

The pallbearers, all members of the Worcester Protective Department, were Lieut. George Taft, Lieut. Lorten C. Walden, Wilbert Baker, Edgar E. Taylor, Arthur E. Stevens, Albert E. Segar, Mitchel A. Delage, Carl Reynolds, Andrew E. Wilder, Rufus E. Ham, and Edward Halcott. Burial was in Hope Cemetery.

Among those attending the service were Mayor O'Hara and Chief Charles L. McCarthy, of Worcester; President Otis C. White and William H. Lewis, of the Box 4 Associates; State Fire Inspector Robert E. Molt; directors of the Worcester Protective Department headed by Edmund L. Sanders; John Yatter, surviving member of the first patrol company; and representatives of the Massachusetts State Firemen's Association, New England Association of Fire Chiefs, Fire Chiefs' Club of Massachusetts, and Box 52 Association, of Boston.

The chiefs present included Chief Selden R. Allen, of Brookline; Chief John W. O'Hearn, of Watertown; Chief James M. Casey, of Cambridge; Chief George L. Johnson, of Waltham; Chief Daniel B. Tierney, of Arlington; Chief Thomas H. Mahoney, of Westfield; Supt. Peter E. Walsh, of the Boston Protective Department; Chief Arthur Montmeny, of Chicopee; Chief Frank C. Newman, of Melrose; Chief Frank E. Tracy, of Woburn; and Deputy Chief Walter M. McLean, of Boston. Captain Keough, of Boston; George F. Cobb, of Brookline, and many Worcester city officials also attended.

HARRY BELKNAP.

Reading Has New Fire Alarm System

About a year ago work was started on a complete underground cable arrangement for the fire alarm system of Reading, Pa. The central fire alarm equipment is located in a room on the second floor of the city hall, with a modern and well equipped battery room provided in the basement.

The relay board has twenty-four circuits, sixteen of which are box circuits, four are primary fast time alarm circuits and four secondary fast time alarm circuits.

If the repeater or transformer should become disabled, the alarm can be sent out manually from the relay board. Alarms giving any box number can also be sent out from the board room by means of a master box. The central room also contains a charging board of thirty circuits used to charge the batteries located in the basement.

This system, together with a new police telegraph system which has been installed, costs $100,000.

Goldsboro, N. C., to Enlarge Fire Alarm—Goldsboro, N. C., is to extend its fire alarm system.

Fire Damages Boston Public Library

The Boston Public Library in Copley Square, Boston, Mass., was threatened by fire on March 13 when a blaze was discovered in an unused storeroom under the roof.

District Chief Samuel J. Pope responded to a telephone alarm with Engine Company 22 and Ladder 13 from the Warren Avenue firehouse about 8:35 p.m. Upon reaching the scene he immediately ordered a box alarm and followed this by a second alarm two minutes later.

By the time Deputy Chief Thomas H. Downey, Assistant Chief Henry A. Fox and Chief Daniel F. Sennott reached the square a hose line had been taken over the main staircase of the library and thence to a small inside balcony leading to the storeroom where the flames were raging.

Smoke and flames coming from a skylight in the roof attracted a large crowd to the square. Additional hose lines were taken over aerial ladders on the Huntingdon Avenue side of the library and also over the main staircase.

The blaze was quickly brought under control by Engine Company No. 22 in command of Lieut. Edward F. Doyle. Rubber covers were spread over book cases and mural paintings in Bates Hall and adjoining rooms by members of the Boston Protective Department.

Persons in the reading rooms and in two lecture halls left the building in an orderly manner when informed of the fire. The blaze was discovered by an assistant librarian who smelled smoke while in the catalogue room. An electrician in the library fought the fire with chemical extinguishers until the hose line could be brought into play.

Lieut. Doyle and Hoseman Patrick Flaherty, of Engine 22, were scalded by a hot water pipe which burst, but their injuries were not serious. The damage was estimated at $1,500.

Director Charles F. Belden, of the library, wrote the following letter of appreciation to Fire Commissioner Edward F. McLaughlin:

"Permit me to express the warm appreciation of the trustees of the Boston Public Library and of myself as director for the intelligent work of the department on the occasion of the fire in the library. The arrival of the machines was very speedy and the men in charge showed admirable judgment and care in their handling of the situation. They took great pains not to damage the building in any way by their hose or other material. They used the minimum amount of water necessary to extinguish the fire, and they were most patient and courteous at every stage of the affair. I do not see how their work could have been handled better and I hope you will transmit to them the thanks of the library for their excellent work."

HARRY BELKNAP.

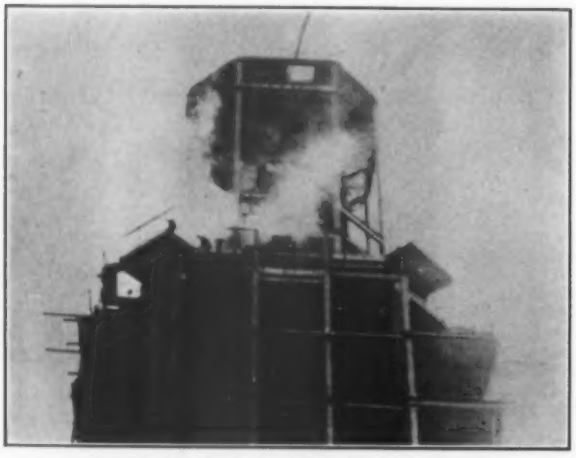
Pumper Used at 20th Story Fire

Fire broke out on the twentieth floor of the new court house under construction in Camden, N. J., and caused an estimated damage of $25,000.

In order that water streams could be brought to bear on the flames, Chief Thomas J. Nicholas of the Camden Fire Department and two construction officials rode to the twentieth floor of the burning building on a hoist, carrying the necessary lengths of hose. As the hoist was a temporary one, and designed for only 1,000 pounds, the task was hazardous.

The fire started from a red-hot rivet which fell into a pile of inflammable material. The resulting flames could be seen as far away as West Philadelphia, Gloucester and Collingswood.

A 1,000-gallon American-LaFrance pumper was stationed two hundred feet from the burning building and delivered an effective stream through 750 feet of 2½-inch hose.



Fire on Top of New City Building at Camden, N. J.

Gamewell Shifts W. P. Briggs

Joseph M. Briggs, formerly a member of the engineering department of the Gamewell Company, Newton Upper Falls, Mass., has been appointed assistant project engineer in the New York office, 70 E. 45th street.

Joseph M. Briggs

He is the son of William B. Briggs, who is one of the most popular members of the International Association of Municipal Electricians. The senior Briggs is an inventor of merit, and has designed several successful electrical devices.

J. M. Briggs received his education at the Massachusetts Institute of Technology, and upon the completion of his work there, he became associated with his father in municipal work in New Bedford. Several years ago he left that position to take up work with the Gamewell Company.

In his new work he will have considerable contact with fire chiefs and superintendents of fire alarm systems, as well as city officials.

Fire Tests Made at Boston Navy Yard

On the afternoon of March 26 a demonstration of the use of carbon dioxide extinguishers was held in the Boston Navy Yard by H. W. De Veer, Massachusetts Distributor for Walter Kidde & Co., Inc.

The exhibition was witnessed by naval officers, fire chiefs and representatives of public utilities corporations, fire chiefs and representatives of public utilities corporations. Tests were made with Lux and Fyre Freez portable and wheeled type units on fires in gasoline, alcohol, lacquer, and excelsior.

Among the fire officials present were the following chiefs: Frank C. Newman, of Melrose; Warren Belcher, of Winthrop; Fred D. Graham, of Wakefield; Joseph L. Cribby, of Somerville; James M. Casey, of Cambridge; John W. O'Hearn, of Watertown; David A. DeCourcey, of Winchester; O. O. Ordway, of Reading; Mellen R. Joy, of Saugus; H. J. Harrigan, of Dedham; and J. R. Bacon, of Weymouth.

HARRY BELKNAP.

Westchester Chiefs' Meeting

(*Continued from page 284*)

First Lieut. Frank E. Brown, Peekskill
Second Lieut. Robert L. Haring, Peekskill
Supervisor Thomas Gardner, Peekskill
Ex-Chief John J. Heleker, Peekskill
Capt. James Manning, Peekskill
First Lieut. Frank Curico, Peekskill
Second Lieut. Robert Blythe, Peekskill
Robert H. Lockwood, Editor, FIRE ENGINEERING, New York City.

E. Weymouth, Mass., to Erect Fire House—East Weymouth, Mass., plans to erect a new fire house to cost $70,000.

Pay of Winthrop, Mass., Firemen Increased—The salaries of the permanent members of Winthrop, Mass., were raised on March 17.

Home of Ford's Fiddler Destroyed—The home of "Mellie" Dunham, famous old-time fiddler made popular by Henry Ford, located in Norway, Me., was destroyed by a fire that started from a defective chimney.

Firemen Sue for Injuries—Three members of the Milford, Mass., Fire Department have filed damage suits of $10,000 each against the Huckins Company, Inc., of Boston, as a result of injuries received in an automobile accident in Franklin.

The Round Table

(*Continued from page 280*)

Marshal, Wm. G. Brooks, to proceed to standardize all fire department hose threads and a program was laid out.

E. C. Beatty, Chief, Tuscaloosa, Ala.: All hose threads employed in Tuscaloosa are of the National Standard type. Cities within a radius of fifty miles of here also use the same thread as well as all schools, hospitals and industrial plants.

Dolph Becker, Chief, Oelwein, Iowa: Our hydrants and hose are all of the National Standard thread. All nearby cities that could render assistance or upon whom we could rely for help, are similarly equipped.

Fred. Peabody, Chief, Albion, Mich.: Our hose threads conform to Standard specifications. The Standard thread is used in the majority of cities and towns throughout Michigan with the exception of Detroit.

Stephen J. DeMay, Chief, Detroit, Mich.: Our hose threads are 7½—3⅛ inch diameter. Communities that would be in a position to render assistance to us are equipped with the same thread.

The state fire marshal wrote the mayor of each city and town enclosing a copy of the bill authorizing the adoption of the National Standard thread and explained his plan of procedure to accomplish the desired results. A complete set of standardizations tools were to be purchased by the State Fire Marshal who would also furnish a man to take the tools from city to city and supervise the work. Each city and town was expected to furnish a sufficient number of men to carry out the work in their particular department.

R. C. Robertson, Chief, North Attleboro, Mass.: I am very glad to say that our hose threads have always been of the National Standard type, and believe it to be the only thing. I guess the people around Fall River were pretty happy to see so many towns and cities from Massachusetts come in and make connections to National Standard threads. We believe and hope it will be so everywhere.

F. J. May, Chief, Mansfield, Ohio: All hose threads of Mansfield are of the Standard type, this work being accomplished three years ago. Fire equipment of shops and factories were likewise converted. I believe all Ohio cities and towns now employ the National Standard thread which makes it possible to assist neighboring communities in case of need. The time has come when every city in the country should be standardized.

Chas. E. Dunton, Chief, Spencer, Mass.: Our hose and hydrant threads have been examined by an inspector from the office of the state fire marshal and reported as conforming with the National Standard specifications. I believe the majority of our neighboring cities and towns likewise have the standard thread.

J. J. Powell, Chief, Griffin, Ga.: Our hydrant and hose threads are not of the Standard specification type. All hydrants installed are three-way, with engine connection and threads the same as those of the Atlanta department. All old hydrants are two-way with different threads. To overcome this difficulty I have three sets of double male and female connections with the Atlanta threads. Atlanta is forty miles from Griffin with a concrete road connecting the two cities.

F. W. Schier, Chief, Union City, N. J.: Our hose and hydrant threads are National Standard, in fact all cities and towns using Hackensack water are of the same type. Jersey City has a different thread and we carry a special coupling for their hydrants.

F. F. Trombley, Chief, Sault Sainte Marie, Mich.: Hose threads of the fire department of Sault Sainte Marie conform with the National Standard specifications. While our thread size is different from those of our border city, we carry adapters for use whenever called to operate in their area.

H. L. Taylor, Chief, Rome, Ga.: Our hose threads are 7 per inch. Not all cities and towns in our vicinity have the same size hose threads as our department, but I believe that all should be the same so that operations may be speeded up in case a call for assistance is received, otherwise valuable time may be lost.

F. M. Kuhn, Chief, Pontiac, Mich.: Our hose threads differ from the National inasmuch as the male thread has a diameter of 3⅛ inch outside with 7½ threads per inch.

We do not intend changing as our threads are the same size as those of the city of Detroit on whom we depend for aid. All cieies and towns within a radius thirty miles are similarly equipped.

Chas. B. Monn, Chief, Warsaw, Ind.: All our couplings and hose connections are Standard thread and I believe this should be the case of every city and town. I found couplings and connections of a neighboring town not Standard, so could not render assistance during a recent fire.

J. Emory Parks, Secretary, Rescue Fire Co., Cambridge, Md.: The threads of all our couplings are the National Standard of 7½ threads per inch. A bill was passed at the last legislature making it prohibitive to sell any fire company in Maryland equipment not conforming to the National Standard thread, and all couplings which we were using at the time of the passing of the bill were of course re-threaded. This law does not prohibit the use of patent or snap couplings as all companies using them carry 7½-thread adapters. All companies in Maryland are being standardized so that they can help each other without difficulty in time of need.

R. H. Bowker, Chief, Passaic, N. J.: Our hose threads do not conform to the National Standard specifications, nor will we change until nearby cities do likewise. Our present thread size corresponds to that of all our nearby communities.

John Schewerman, Chief, Defiance, Ohio: My department was standardized about eight years ago. We figured it a good move at that time and feel we have been compensated for the expense involved. We have noticed that insurance companies favor the move we have made.

C. G. Rech, Chief Tonawanda, N. Y.: Our hose threads are not of the standard specifications, being eight per inch. I do not believe there will be a change at the present, as all surrounding cities and towns are of the same size thread.

A. B. Horney, Chief, High Point, N. C.: Our hose threads do not conform to the National Standard, nor do I believe they will be rechased. Our hose threads correspond to those of all towns within a radius of twenty-five miles. Adapters are carried on our trucks.

S. J. Flores, Chief, Shreveport, La.: Hose threads of the Shreveport department are of Standard, 7½ per inch. All fire departments in this locality are similarly equipped so that it is possible for us to aid each other.

Ed. Hamm, Chief, Winfield, Kans.: Our hose threads are of the National Standard type, as are those of all neighboring communities, which make it possible to assist one another in case of need. I think this is a mighty fine subject for discussion, one which should be of interest to every chief. It is of vital importance and should not be overlooked.

Frank Ernenwein, Chief, Oneida, N. Y.: I am very glad to say we have the National Standard thread on our equipment. We are equipped with couplings in case we respond to a call for assistance in a community with different size threads or should others come in to help us.

E. E. Cureton, Chief, Owensboro, Ky.: We changed all our threads several years ago to the National Standard. We carry adjustable adapters so that we can render assistance to surrounding cities and towns.

John Gibson, Chief, Mount Vernon, N. Y.: Hose threads of Mount Vernon do not conform to the National Standard specifications, being eight to the inch. Our thread corresponds with surrounding communities: New York City on the south, Yonkers on the west, Pelham and New Rochelle on the east and town of Eastchester on the north. We believe it would not be advisable to make any change at this time due to our thread size being the same as our neighboring communities.

Frederick Waite, Chief, Bridgewater, Mass.: Our hose threads correspond to the National Standard. All nearby cities and towns have changed over to the Standard thread, which has worked out to our mutual advantage.

Jos. Peralta, Chief, San Leandro, Cal.: We are using Pacific Coast Standard hose connections and threads, as this size is used entirely in this district.

W. E. Street, Chief, Litchfield, Ill.: Our hose threads do not conform to the National Standard specifications, nor do we believe they will be rechased for some time. We carry adapters so that we can connect with cities on either side of us should such be necessary.

Thomas Corson, Chief, Millville, N. J.: We have the Standard thread on our couplings which makes it possible for us to hook up with surrounding communities.

T. B. Parks, Chief, Hannibal, Mo.: Our hose threads were standardized five years ago to conform to the National specifications. Our neighboring towns are similarly equipped, which makes it possible for us to assist each

other. I believe in standardization, otherwise we would be helpless to receive or render aid.

Robert Stinson, Chief, Beardstown, Ill.: Beardstown hose threads are Standard. Through our association, which comprises ten departments, we have constructed a coupling suitable for use in neighboring towns which are not equipped with the Standard thread.

H. A. King, Chief, East Cleveland, Ohio: Our hose threads are not of the Standard type. It is possible for us to receive or render assistance as our threads conform to those of surrounding communities.

William Kintop, Chief, Charles City, Ia.: Hose threads are not Standard, but conform to those of nearby towns. I do not believe they will be rechased in the near future.

John Davis, Chief, Portland, Ind.: The hose threads of this city are of the National Standard size. Practically all neighboring towns and cities are of this measurement.

Howard C. Kimball, Chief, Salem, Mass.: The city of Salem, Mass., adopted the National Standard hose thread about ten years ago, which corresponds to the thread size of adjoining cities.

D. M. Husdon, Chief, Chelsea, Mass.: Massachusetts law requires that hose coupling threads be National Standard size. For this reason all our neighboring cities are similarly equipped.

O. F. Romann, Chief, Cleveland Heights, Ohio: Our hose threads are eight per inch and correspond with those of our nearest neighbors.

Geo. A. Wood, Chief, Niagara Falls, N. Y.: Our hose threads are 7½, 3 1/16-inch diameter. Niagara Falls, Ontario, Canada, is also of this size.

C. L. Ingram, Chief, Montgomery, Ala.: Hose thread size is eight per inch. It is impossible to state at this time whether couplings will be rechased to conform to the National Standard or not. Our present hose thread size does not correspond to that of all neighboring towns.

P. J. Thomas, Chief, Berlin, N. H.: All hose threads in the city of Berlin and nearby towns were rechased in 1928 and are now of the National Standard size.

Jas. N. Sullivan, Greenwich, Conn.: Our hose threads are not of the Standard size, nor do I believe they will be rechased in the near future. It is possible for us to render assistance in surrounding communities by employing the adapter.

Frank Lemar, Chief, Gardiner, Me.: Gardiner and all cities within a radius of one hundred miles conform to the National Standard specifications. I believe that the whole state will be likewise equipped within two years' time.

C. A. Dobbs, Chief, Scarsdale, N. Y.: We are using National Standard thread. Three of our neighboring communities employ this same size, while others use the New York City thread size. It is possible for us to render assistance by the use of adapters which are carried on apparatus.

Harry Francis, Chief, New Brunswick, N. J.: The size of hose thread employed in New Brunswick is the National Standard. Cities and towns in our county are all of this same size, making it possible to assist one another.

Harry Voshell, Chief, Indianapolis, Ind.: Indianapolis employs the National Standard thread. All couplings were rechased several years ago to conform to this size. We have on several occasions rendered assistance to other cities.

V. H. Steele, Chief, Billings, Mont.: Hose threads at the present are not of the National Standard size but will be rechased in about thirty days to conform to the Standard specifications.

Dewey Wills, Chief, Raton, N. Mex.: The Standard thread is employed in Raton. Trinidad, our nearest city, is of the same size thread.

E. H. Phelps, Chief, Leominster, Mass.: Our hose threads are all of the National Standard size, which corresponds to that of our neighboring cities.

Hazleton, Pa., Orders Apparatus—The council of Hazleton, Pa., has ordered two pieces of Hahn apparatus.

Harlingen, Tex., Orders Apparatus—Harlingen, Tex., has placed an order for fire apparatus totalling $30,000.

Fire House Opened in Bethlehem, Pa.—A fire house has been opened in Bethlehem, Pa., for the Tatamy Fire Company. The building is constructed of joisted brick and is two stories high.

Shorewood Hills, Wis., Wants Apparatus—Bids will be invited soon by Shorewood Hills, Wis., for supplying fire apparatus. Meanwhile, Madison will continue to answer fire calls from this village.

CORRESPONDENCE

In Praise of Chief Dunphy

To the Editor:

In the March 5 issue there was an article on the Capitol Hotel fire, Sacramento, Cal.

I saw the smoke from this fire approximately ten miles away and was under the impression that a gas works was emitting a discharge which usually shoots straight up. But fire was visible for so long that I could not explain it. I arrived in Sacramento and found the Capitol Hotel on fire.

Pumper Operated Some Distance Back of the Hotel Fire

The article in the magazine indicates that Chief Dumphy used good judgement which in a great measure is true, but it is a poor indication of the good work that the chief really accomplished.

I arrived at the fire within one-half hour after it had started. For four hours the fire was fought without a sign of gain, and when the smoke turned from black to gray, Chief Dunphy immediately took a steamer to replace a gasoline operated pumper. There are two steamers in the department. He showed a generalship that is noteworthy. Enclosed are some photographs that I took.

Chief Dunphy was host to the convention of the Pacific Coast Fire Chiefs Association in 1928, and he was such a

Steam Pumper Used to Relieve Gasoline Operated Unit

good host that the entire membership had many good things to say about him.

The steamer in the illustration is ejecting a stream of 600 gallons a minute, and by its use, the department is conserving its gasoline operated pumper.

Yours very truly,

J. N. HEDBERG,
San Jose, Cal.

Little Rock to Erect Fire Stations—Contracts have been awarded for the construction of three new fire stations in Little Rock, Ark. Each building is to be completed within sixty working days and the total cost is $53,767. Within the near future the city will spend $5,000 for a drill tower to be erected at the Central Station. The fire department secured a large appropriation last year, of which $151,872 has been spent. With the balance the city intends installing a new fire alarm system in accordance with recommendations made by the Arkansas Fire Prevention Bureau.

Every Chief and Every Fireman . . . .

should have one of these

Actual Size

NEW AUTO PLATES

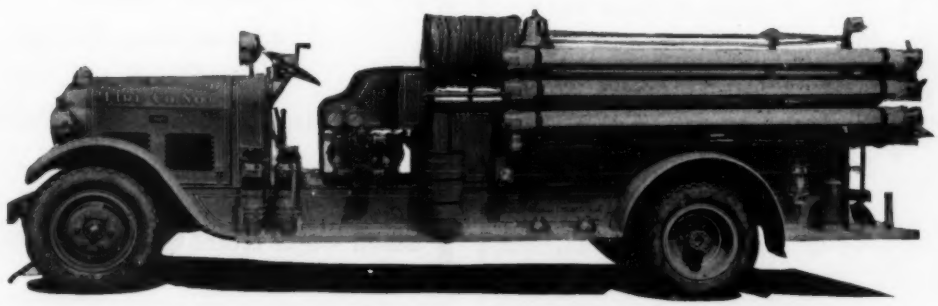
WHEN in traffic or responding to call avoid annoying delays.

Easily attached to your car—these plates get you through traffic faster.

They are made up with your own lettering and your personal insignia. They come either in gold or nickel plate—$2.50 for the nickel finish or $3.75 for the gold. Postage prepaid.

BRAXMAR BADGES

C. G. BRAXMAR CO., 242 West 55th Street, New York



HAHN apparatus will give you that efficient, dependable service so necessary at all times. And in addition, it will reflect credit to your department to own such an up-to-date, attractive and beautifully finished apparatus.

Triple combination pumpers 300 to 1,000 gallons capacity. City service trucks, ladder equipment single or double bank.

Full information sent upon request.

HAHN MOTOR TRUCK CORP., Allentown, Pa.

20 Years Experience Building Fire Apparatus

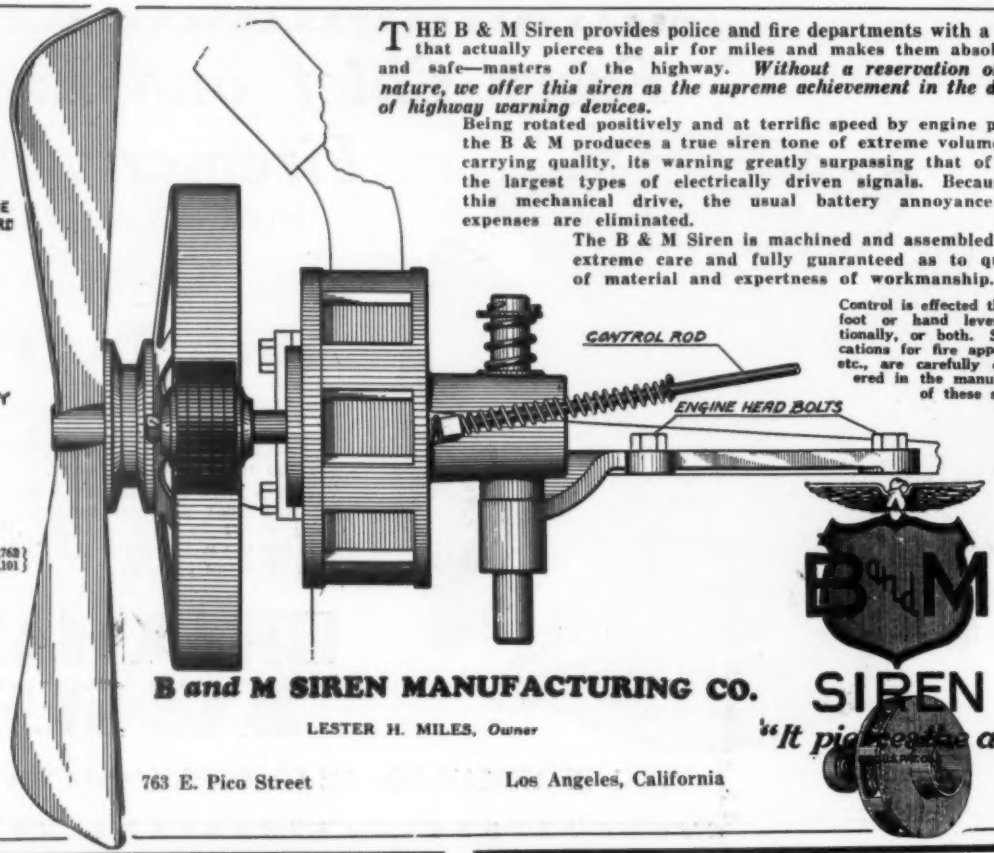
B&M FORD SIREN

MADE TO FIT THE NEW MODEL FORD

PRICE 65.00

COMPLETE WITH DRIVE PULLEY FAN AND BRACKET

PATENTS
{1,566,761 1,566,762
1,566,763 1,586,101}
Others Pending



THE B & M Siren provides police and fire departments with a voice that actually pierces the air for miles and makes them absolute—and safe—masters of the highway. *Without a reservation of any nature, we offer this siren as the supreme achievement in the design of highway warning devices.*

Being rotated positively and at terrific speed by engine power, the B & M produces a true siren tone of extreme volume and carrying quality, its warning greatly surpassing that of even the largest types of electrically driven signals. Because of this mechanical drive, the usual battery annoyance and expenses are eliminated.

The B & M Siren is machined and assembled with extreme care and fully guaranteed as to quality of material and expertness of workmanship.

Control is effected through foot or hand levers optionally, or both. Specifications for fire apparatus, etc., are carefully considered in the manufacture of these signals.

B and M SIREN MANUFACTURING CO.

LESTER H. MILES, *Owner*

763 E. Pico Street Los Angeles, California

B and M SIREN "It pierces the air"

400

M & M WATER SYPHONS

PLACED IN FIRE DEPT. SERVICE IN 1929

SENT TO YOUR CITY PREPAID ON 30 DAY

FREE TRIAL

WRITE FOR SPECIAL CIRCULAR ON THIS "MASTER" SYPHON

P-B PRODUCTS CO., Inc.
2155 Blendon Pl., St. Louis, Mo.

Fire Alarm Signals
Water Meters
Compounding Valves
Stops
Water Pressure Regulators

Presses for Lining Service Pipe with Cement

Union Water Meter Co., Worcester, Mass.

Incorporated 1868

G

The new Rensselaer Catalog "G" is now ready for distribution. Officials desiring the latest information on RENSSELAER VALVES and COREY HYDRANTS are invited to fill in and mail the coupon below.

RENSSELAER VALVE CO.,
TROY, NEW YORK.

Send Catalog "G" to

Name .....

Title .....

Street .....

City .....

Saves time - *and costly hose*

No. 1. (Capacity 3 to 7 tons; weight, each, 72 lbs.)

No. 2. (Capacity 3 to 12 tons; weight, each, 118 lbs.)

Complete information and Prices on request.

It's often necessary to move apparatus at a fire. Automobile traffic hates to be held up by a line of hose stretched across the right of way.

Why ruin your hose by driving over it? Or waste valuable time cutting off and disconnecting?

The Wausau Protector is a big time and money saver—easy to handle and carry. Order a set today, or write us for particulars.

Wausau Fire Hose Protector Co.
1520 Harmon Place, Minneapolis, Minn.

FIRE DEPARTMENT ACTIVITIES

Franklin to Have Forest Fire Apparatus—Franklin, N. H., is to purchase a truck for fighting forest fires.

Jesup, Ia., Buys Apparatus—Jesup, Ia., has purchased a new chemical car.

Jesup, Ia., Buys Apparatus—A new chemical car has been purchased by Jesup, Ia.

Ladder Delivered to Haverford, Pa.—A new ladder truck costing $10,000 has been delivered to a Haverford Township, Pa.

Kansas City, Mo., to Have New House—Plans have been completed for the construction of a new fire station in Kansas City, Mo. The building will cost $28,000.

First Aid Kits Urged for Apparatus—It has been urged that all fire apparatus of Lancaster County, Pa., carry first aid kits.

Bedford, O., to Vote on Apparatus Purchase—Bedford, O., will vote on the purchase of fire apparatus at an election April 7.

Collegeville, Pa., to Buy Pumper—Collegeville, Pa., voted to buy a 500-gallon pumper equipped with a fifty-gallon booster tank.

Falmouth, Mass., to Have Fire Station—Plans are being made for the construction of a new fire station in Falmouth, Mass.

Contract Let in Ft. Worth, Tex.—A contract has been let in Fort Worth, Tex., for the construction of a central fire station to cost $140,466.

Davenport, Ia., Needs Apparatus—In the opinion of the National Board of Fire Underwriters, Davenport, Ia., needs two additional pumpers and twelve additional firemen.

La Verne, Cal., May Buy Apparatus—La Verne, Cal., is considering the purchase of fire apparatus, but no definite action has been taken.

Doyleston, Pa., May Erect House—Doyleston, Pa., is considering the construction of a new fire house large enough to contain an auditorium for public functions.

Apparatus Delivered to Monroeville, Ala.—Fire apparatus has been presented to Monroeville, Ala. Steps will be taken to organize a fire department.

Springfield, Ind., Will Buy Apparatus—The townships of Springfield and Cedar Creek, Ind., have united in the purchase of Howe fire apparatus.

Middletown, Md., to Buy Apparatus.—Middletown, Md., has decided to purchase fire apparatus. Funds for the purchase will be raised by the firemen.

Plainfield, N. J., Raising Funds—The council of Plainfield, N. J., is trying to raise funds for the purchase of fire apparatus. The apparatus will cost $12,000.

Date Set for Southern New York Volunteers—The annual convention and tournament of the Southern New York Volunteer Firemen's Association will be held at Long Beach, L. I., on June 10-12.

Green Bay System Repaired—The fire alarm system of Green Bay, Wis., which has been out of repair for some time pending the installation of new equipment, is now back in service.

Plans Made for New Britain House—Plans have been completed for a new fire house in New Britain, Conn., which will also have space for a branch of the public library. It will be of the bungalow type.

Boston Corps Has New Running Card—A new running card has been put into effect by the Boston Protective Department. Many runs to residential districts on first alarms have been eliminated.

Station Completed in Murray, Utah—A new fire station has been completed in Murray, Utah. It includes an auditorium, office space, showers, and rooms for equipment and apparatus.

Village Has Two Fire Chiefs—Fairview, Ohio, has two fire chiefs. The council refused to approve an appointment made by the mayor because the one named is a resident of Cleveland. The former fire chief still remains on the job so that there are two fire department heads.

Suffolk County to Receive Forest Apparatus—New fire apparatus designed for fighting forest fires will be delivered to Suffolk County, L. I., N. Y. Spring brush fires in the county have been particularly severe. The apparatus is equipped with tanks to carry 400 gallons of water.

College Point to Have Fire Station—Plans have been approved for the construction of a fire station in College Point, Queens Borough, New York city. It will be of modern brick construction, two stories high and will occupy a plot thirty-six by eighty-nine feet. The building, when finished, will house an engine company and a ladder unit.

Milwaukee to Get Six Trucks—According to Chief Peter Steinkellner of Milwaukee, Wis., that city will receive four ladder trucks and two pumpers during 1930. The pumpers will have a capacity of 1,000 gallons a minute. The trucks are to be purchased and then assembled in the department repair shops.

More Firemen Urged for Council Bluffs—According to the National Fire Protection Association, the fire department of Council Bluffs, Ia., is seriously undermanned, and in addition, an improved fire alarm system and pumpers are needed.

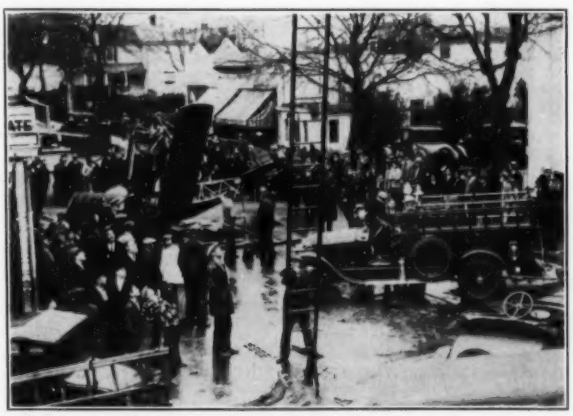
Inventor of Aerial Ladder Nozzle Dead—Charles L. Newcomb, inventor of the aerial ladder nozzle and formerly manager of the Deane Works of the Worthington Pump & Machinery Corporation, died at his home in Holyoke, Mass., at the age of seventy-five. Not only did he invent the nozzle that converts an aerial ladder into a water tower, but he developed the standards for fire hydrants that are approved by the National Board of Fire Underwriters.

Oakland Airport to Have Fire Alarm—A fire alarm system consisting of sixteen fire alarm boxes and eight alarm gongs is to be installed at the municipal airport in Oakland, Cal. Fire fighting equipment at the field now includes an emergency fire truck, forty-gallon extinguisher tanks in all hangars as well as hose reels, gas mask equipment and small extinguishers which are distributed throughout all field buildings.

Airplane Fires—a Growing Danger

(*Continued from page 278*)

and carbon dioxide, or Du-gas extinguishers, probably serve as the most effective means for handling airplane blazes. But here again success depends upon the speed



A Narrow Escape for Some Buildings

Remains of a Waco plane in which James Pisani, a student pilot was killed, when he crashed in the main street of Westbury, Long Island, last November.

with which the appartus arrives at the scene of the accident.

The illustrations herewith show some typical airplane fires, and illustrate very clearly the difficulties encountered in extinguishing such blazes.

PROPOSED IMPROVEMENTS

Greenville, S. Car.—Junior Chamber of Commerce urging new fire alarm system in city, according to reports.

Fabens, Tex.—At recent election city voted in favor of a bond issue for purchase of new fire apparatus, according to reports.

Wheeling, W. Va.—Specifications are being prepared for proposed two new pieces of fire apparatus, according to reports. E. A. McGranahan, Chief of Fire Dept.

Greensburg, Penn.—The erection of a new station for the Eighth Ward Hose Co. was authorized, according to reports.

Scarsdale, N. Y.—Erection of new fire station was recommended recently according to reports.

Floral Park, N. Y.—At election held March 18 village voted in favor of issuing fire station bonds to the amount of $45,000.

Akron, Ohio.—An ordinance has been passed by City Council authorizing bond issue to the amount of $13,500 for fire station site purchase and bond issue to the amount of $66,500 for fire station building.

Erie, Penn.—Site is being sought for erection of fire headquarters building. W. G. Haas, Public Safety Director.

Brookline, Mass.—At recent town meeting it was voted to appropriate $72,500 for construction of new fire station in Chestnut Hill section.

CONVENTION DATES

April 7-9—ARIZONA STATE FIREMEN'S ASSOCIATION. 7th Annual Convention. President, Charles C. Parks, Yuma, Ariz.

April 7-10—FLORIDA STATE FIREMEN'S ASSOCIATION. 5th Annual Convention, Vero Beach, Fla. Secretary, F. C. Pfaender, Winter Haven, Fla. Secretary, Local Convention Committee, E. G. Thatcher, Vero Beach.

April 14-16—SOUTHWESTERN ASSOCIATION OF FIRE CHIEFS. 3rd Annual Convention, Oklahoma City, Okla. Secretary-Treasurer, Chief Tom Lyle, Okmulgee, Okla.

April 16—WESTCHESTER COUNTY FIRE CHIEFS' EMERGENCY PLAN. April Meeting, Fire Headquarters, Larchmont, N. Y. Secretary-Treasurer, Lieut. E. Riviere, Fire Headquarters, Larchmont, N. Y.

May 12, week of—NATIONAL FIRE PROTECTION ASSOCIATION. 34th Annual Meeting, Atlantic City, N. J. 1931 Convention probably to be held in Toronto, Can. Managing Director, Franklin H. Wentworth, 60 Batterymarch St., Boston, Mass.

May 14—DEL-MAR-VA. VOLUNTEER FIREMEN'S ASSOCIATION. 1st Annual Convention, Cambridge, Md. Secretary, J. Emory Parks, Cambridge, Md.

May 19-23—KANSAS STATE ASSOCIATION OF FIRE CHIEFS, STATE FIREMEN'S ASSOCIATION and FIRE SCHOOL. Respectively, 14th and 43d Annual Convention and 2nd Annual Fire School, Salina, Kan. Secretary, Chief K. D. Doyle, Wamego, Kan. Secretary, Firemen's Short Course Committee, E. J. Stewart, Kansas Insp. Bureau, 701 Jackson St., Topeka, Kan.

June—EASTERN ASSOCIATION OF FIRE CHIEFS. 3rd Annual Convention, Baltimore, Md. (Exact date to be decided later.)

June 2-4—OKLAHOMA STATE FIREMEN'S ASSOCIATION. 36th Annual Convention, Tulsa, Okla. Secretary-Treasurer, Charles Slemp, 820 East 19th St., Oklahoma City, Okla.

June 2-6—AMERICAN WATER WORKS ASSOCIATION. 50th Annual Convention, Hotel Jefferson, St. Louis, Mo. Secretary, Beekman C. Little, Rochester, N. Y. Offices of the Association, 29 West 39th Street, New York City.

June 4-6—NEW MEXICO STATE FIREMEN'S ASSOCIATION. 8th Annual Convention (Combined with Firemen's Short Course), Deming, N. M. Secretary-Treasurer, Theodore A. Rosenwald, Albuquerque, N. M.

June 9-11—SOUTH CAROLINA STATE FIREMEN'S ASSOCIATION. 25th Annual Convention, Beaufort, S. C. Secretary, R. S. Hood, Sumter, S. C.

June 10-11—MINNESOTA STATE FIRE DEPARTMENT ASSOCIATION. 58th Annual Convention, Excelsior, Minn. Secretary, Chief Fred Pfaender, New Ulm, Minn.

June 10-12—OHIO FIRE CHIEF'S ASSOCIATION. 13th Annual Convention, Portsmouth, Ohio. Secretary, Chief Philip J. Hardy, Fire Department, Youngstown Sheet and Tube Company.

June 11-13—MARYLAND STATE FIREMEN'S ASSOCIATION. 38th Annual Convention, Lord Baltimore Hotel, Baltimore, Md. Secretary, George R. Lindsay, Hagerstown, Md.

June 13-14—DELAWARE COUNTY FIREMEN'S ASSOCIATION. 24th Annual Convention and Parade, Linwood, Pa. Financial Secretary, William E. Wunderlich, Lansdowne, Pa.

June 13-14—DAUPHIN COUNTY FIREMEN'S ASSOCIATION. 12th Annual Convention, Steelton, Pa.

June 16-20—SIX COUNTY FIREMEN'S ASSOCIATION. Annual Convention, Danville, Pa.

June 20-21—FOUR COUNTY FIREMEN'S ASSOCIATION. Annual Convention, Easton, Pa.

June 10-11—MINNESOTA STATE FIRE DEPARTMENT ASSOCIATION. 58th Annual Convention, Excelsior, Minn. Secretary, Chief Fred Pfaender, New Ulm, Minn.

June 10-12—OHIO FIRE CHIEF'S ASSOCIATION. 13th Annual Convention, Portsmouth, Ohio. Secretary, Chief Philip J. Hardy, Fire Department, Youngstown Sheet and Tube Company.

June 11-13—MARYLAND STATE FIREMEN'S ASSOCIATION. 38th Annual Convention, Lord Baltimore Hotel, Baltimore, Md. Secretary, George R. Lindsay, Hagerstown, Md.

June 13-14—DELAWARE COUNTY FIREMEN'S ASSOCIATION. 24th Annual Convention and Parade, Linwood, Pa. Financial Secretary, William E. Wunderlich, Lansdowne, Pa.

June 13-14—DAUPHIN COUNTY FIREMEN'S ASSOCIATION. 12th Annual Convention, Steelton, Pa.

June 20-21—FOUR COUNTY FIREMEN'S ASSOCIATION. Annual Convention, Easton, Pa.

June 24-27—NEW ENGLAND ASSOCIATION OF FIRE CHIEFS. 8th Annual Convention, Hotel Berwick, Rutland, Vt. Meetings, Odd Fellows' Hall; Exhibits, Armory, Secretary-Treasurer, Chief John W. O'Hearn, Watertown, Mass.; Chairman, Exhibits, Chief Daniel B. Tierney, Arlington, Mass.; Traffic Manager, George F. Cobb, Boston.

July 8-11—MICHIGAN STATE FIREMEN'S ASSOCIATION. 56th Annual Convention and Fire College, South Haven, Mich. Secretary-Treasurer, H. L. Williams, Ludington, Mich.

July 9-10—DELAWARE VOLUNTEER FIREMEN'S ASSOCIATION 10th Annual Convention, Georgetown, Sussex County, Del. Secretary, Sam H. Carson, Dover, Del.

July 22-23—WESTERN NEW YORK VOLUNTEER FIREMEN'S ASSOCIATION. 30th Annual Convention, Rochester, N. Y. Secretary, Henry A. Clark, Batavia, N. Y.

July 29-31—INDIANA FIREMEN'S ASSOCIATION. 13th Annual Convention, Lafayette, Ind. Secretary, Clem Smith, Fire Headquarters, Terre Haute, Ind.

July 31-Aug. 1-2—CALIFORNIA STATE FIREMEN'S ASSOCIATION. 8th Annual Convention, San Francisco, Cal. Secretary-Treasurer, H. E. Strasser, 1171 Tenth Street, San Diego, Cal.

August—UTAH STATE FIREMEN'S ASSOCIATION. 23rd Annual Convention, Provo City, Utah. (Exact date to be decided later.) Secretary, Charles A. Canning, Midvale, Utah.

Aug. 6-8—WASHINGTON STATE FIREMEN'S ASSOCIATION. 8th Annual Convention, Kelso, Wash. Secretary, H. S. Jenkins, Bellingham, Wash.

Aug. 12-14—WISCONSIN PAID FIREMEN'S ASSOCIATION. 23rd Annual Convention, Two Rivers, Wis. Secretary, Hugh Corcoran, Superior, Wis.

Aug. 12-15—WYOMING STATE FIREMEN'S ASSOCIATION. 4th Annual Convention and Tournament, Caspar, Wyo. Secretary, Chief Justin H. Patrick, Laramie, Wyo.

Aug. 19-22—FIREMEN'S ASSOCIATION OF THE STATE OF NEW YORK. 58th Annual Convention, Nyack, N. C. Secretary, Fred A. Davis, Drawer X, Fort Edward, N. Y.

Aug. 26-29—PACIFIC COAST ASSOCIATION OF FIRE CHIEFS. 37th Annual Convention, Oakland, Cal. Secretary, Jay W. Stevens, 343 Sansome St., San Francisco, Cal.

Aug. 27-29—VIRGINIA STATE FIREMEN'S ASSOCIATION. 44th Annual Convention, Phoebus, Va. Secretary, E. K. Landis, Pulaski, Va.

Sept. 2-4—KENTUCKY FIREMEN'S ASSOCIATION. 11th Annual Convention, Paducah, Ky. Secretary, Capt. S. G. Render, 940 Starks Bldg., Louisville, Ky.

Sept. 2-5—DOMINION ASSOCIATION OF FIRE CHIEFS. 22nd Annual Convention, Port Arthur, Ont. Secretary, Chief James Armstrong, Kingston, Ont., Can.

Sept. 9-11—ILLINOIS FIREMEN'S ASSOCIATION. 43rd Annual Convention, Peoria, Ill. Secretary, Assistant Chief Roy W. Alsip, Fire Department, Champaign, Ill. Exhibits, Chief Albert Herring, Fire Department, Murphysboro, Ill.

Sept. 9-12—INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. 58th Annual Convention, Hotel Royal Alexandra, Winnipeg, Man., Canada. Recording Secretary, Chief James J. Mulcahey, Yonkers, N. Y.; Executive Secretary, Jay W. Stevens, 1014 Merchants' Exchange Bldg., San Francisco, Cal.; Chairman, Exhibit Committee, Chief Charles Alt, Fire Headquarters, St. Louis, Mo.

Sept. 16-17—IOWA FIREMEN'S ASSOCIATION. 53rd Annual Convention, Boone, Ia. Secretary, Paul Soener, Independence, Ia.

Sept. 24-25—MISSOURI STATE FIREMEN'S ASSOCIATION. Annual Convention, Trenton, Mo. Secretary-Treasurer, M. J. Mulvoy, 3500 S. Grand Boulevard, St. Louis.

Oct. 7-9—FIREMEN'S ASSOCIATION OF THE STATE OF PENNSYLVANIA. 51st Annual Convention, Hotel Americus, Allentown, Pa. Secretary, Charles E. Clark, 411 Bellevue Avenue, Wayne, Pa.

Oct. 8-9—WISCONSIN STATE FIRE CHIEFS' ASSOCIATION. 2nd Annual Convention, Sheboygan, Wis. Secretary, Chief Arthur J. Rahn, Fire Department, Two Rivers, Mich.

Oct. 21-23—NEBRASKA STATE VOLUNTEER FIREMEN'S ASSOCIATION. 49th Annual Convention (2d in year), Scottsbluff, Neb. Secretary-Treasurer, H. A. Webbert, Kearney, Neb.

Massachusetts Fire Chiefs Meet

President Selden R. Allen, Chief of the Fire Department of Brookline, Mass., directed proceedings at the meeting of th Fire Chiefs' Club of Massachusetts which was held on March 19 with the customary luncheon in the Parker House, Boston.

The principal business was a discussion of the new fire prevention laws recommended by the special commission appointed by Governor Allen and the action of the State Fire Marshal's office in opposing the changes favored by the commission and the chiefs.

Seated at the head table were Chief Allen, Chief Edward F. Dahill, of New Bedford; Ex-Chief John P. Doyle, of Wellesley; Supt. Peter E. Walsh, of the Boston Protective Department; Russell Codman, of the commission; Rep. Lukeweiler, of Newton; George F. Cobb, of Boston, Traffic Manager; and Ex-Chief Burt R. Jaquith, of Randolph, Secretary of the club.

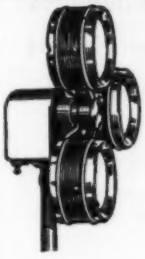
The following new members were elected: Chief Samuel Dowst, of Marlboro; Chief Edwin L. Day, of Wilmington; Chief Milton C. Baggs, of Belchertown, and Fire Commissioner James F. O'Connor, of Everett.

A short talk was given by K. L. Estabrook, of Dayton, O., describing and showing the new "Fire Cry" automatic fire alarm warning bell for installation in residences and mercantile buildings.

HARRY BELKNAP.

Pumper Delivered to Holland Patent, N. Y.—A 500-gallon pumper has been delivered to Holland Patent, N. Y.

The most Effective Combination of Warning Signals



BUCKEYE "ROTO-RAYS"—A silent signal of unquestioned effectiveness to protect your apparatus and your firemen against accidents.

At night these three revolving red signal lights make identification of the apparatus instantly possible as far as light is visible.

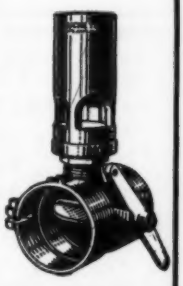
Insist upon having "Roto-Rays" on the next piece of apparatus you buy. It's just as essential as the whistle, the siren or the bell. Easily installed on apparatus now in service.

The Powerful BUCKEYE EXHAUST WHISTLE predominates in over 600 fire departments where serious traffic problems exist.

The shrill blast of a Buckeye Whistle effectively carries far ahead of the apparatus. Its sound is distinctive and extremely penetrating.

"Roto-Rays" and a Buckeye Whistle form the most effective combination of Warning Signals in existence.

Prices and full particulars upon request.



Buckeye Iron & Brass Works
326 E. Third St. Dayton, Ohio

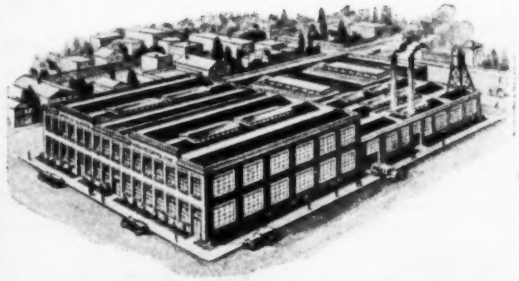
BUCKEYE
WARNING SIGNALS THAT WARN

CRACKERJACK FIRE HOSE

The hose with an unsurpassed reputation for QUALITY and SERVICE that has made it the STANDARD of the WEST for over 25 years.

COMPLETE INFORMATION UPON REQUEST

WRITE FOR THE
Crackerjack Fire Ax
MADE OF RUBBER
A Dandy for the Kiddies



THE AMERICAN RUBBER MANUFACTURING CO.
Factories and General Offices
OAKLAND, CALIFORNIA
Sales Offices

San Francisco, Matson Bldg.
Portland, Ore., 602 Bedell Bldg.
Los Angeles, 458 So. Spring St.
Kansas City, Missouri, 5547 Lydia St.
Boise, Ida., P. O. Box 1432
Salt Lake City, Utah, 149 W. Second So. St.
Spokane, Wash., 112 So. Monroe St.

HEADQUARTERS FIRE DEPARTMENT.
OFFICE OF
CHIEF ENGINEER
CHARLES H. FULLER, Chief Engineer.
Pawtucket, R. I. October 31 19 29

Fulton Bag & Cotton Mills
Brooklyn, N.Y.

Gentlemen:

We have in our department 20 of the Shuredry Salvage Covers and they have proven very satisfactory. I do not think that any department should be without them, as they are the means of saving a great many dollars in damages.

Yours truly
Chas H. Fuller
Chief

CHF/B

Another Prominent Fire Chief Endorses

"Shuredry" Waterproofed **Salvage Covers**

Minimize Water Damage
Reduce Insurance Rates

Write for Samples and Prices

Fulton Bag & Cotton Mills
St. Louis, Minneapolis, Atlanta, Brooklyn, New Orleans, Dallas, Kansas City, Kan.

LARKIN Fire Department Supplies

in Service Wherever Fires Are Fought

Our general line of equipment includes every fire department supply of merit.

Larkin shut off nozzles alone are in service in over 5,000 fire departments in U. S. and Canada.

Give us an opportunity of quoting on your next requirements. Let us send you our general catalog.

THE LARKIN MANUFACTURING CO.
Established 1898 DAYTON, OHIO

JACOB REED'S SONS
Founded 1824 by Jacob Reed

FIREMEN'S UNIFORMS

Thoroughly tailored of especially selected fabrics. Uniforms that look well, wear well and that will give entirely satisfactory service.

Reed's Uniforms are most economical because they represent full value for the amount expended.

Write for catalog and prices.

1424-1426 Chestnut St., Philadelphia, Pa.

The High Efficiency of HALE Rotary Pumps is due to:

1 The form of the patented Rotor Tooth.
2 Automatic Packing.
3 Four bearing pump shafts.
4 Stainless steel pump shafts.

The design of Hale pumps has been perfected through fifteen years of active experience, and has resulted in a rugged, highly efficient product.

HALE FIRE PUMP CO., INC.
CONSHOHOCKEN, PA.
Manufacturers of Rotary Fire Pumps.

Novo Acid Jars & Holders

of every description stronger than lead and non-corrosive. Used by departments throughout the country.

Chemical Tanks and Lally Quick Opening and Self-packing Top for Chemical Tanks

Lally Improved Fire Hose Couplings, Fire Extinguishers and Charges, Fire Hose and Fire Department Supplies in General

Send for Complete Catalog

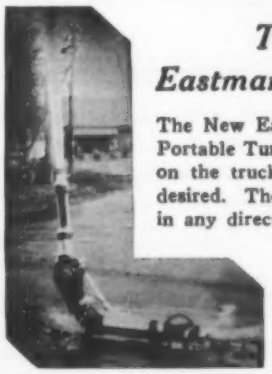
LALLY FIRE APPLIANCE CO.
Wilmington Brass Co., Wilmington, Del.

FIRE DEPARTMENT SUPPLIES OF EVERY DESCRIPTION

A. B. C.
Trade Mark

A. B. C. PIN HOSE RACK STANDARD THROUGHOUT THE WORLD

A. B. C. Fire Prevention Mfg. Co., Inc.
390-392 Hudson St. New York



The New Eastman Deluge Gun

The New Eastman Deluge Gun is a Portable Turret Pipe that can be used on the truck or ground, as may be desired. The stream can be operated in any direction by one man.

Samuel Eastman Co.
Concord, N. H.

EDDY
Fire Hydrants

Are given preference by so many fire protection and water works men because they know that more than half a century of experience go into their manufacture and they embody valuable and exclusive features.

Write for the Facts

EDDY VALVE CO.
Waterford, N. Y.
James B. Clow & Sons, Chicago Agents

Arson Squads

(Continued from page 274)

ous banks. The city of Chicago today is showing what an outraged citizenship can do when it says "enough" to organized crime and throws all its resources into a battle of extermination.

When Public Is Aroused, Civic Forces Respond

Whenever the public is aroused, the civic forces respond. Arson is a crime which the public always has taken lightly, but we note signs of an awakened and better informed public consciousness. Our years of work is educating people to the fact that the fire problem is their problem have not been in vain. The fact that we can secure civic leaders to serve on arson squads proves this. As the squads grow in number and experience, as they build up conspicuous records of achievement, public sentiment likewise will be built up, until I hope it reaches the point where it will say "enough" to the firebug. If we reach that point, then indeed will society cease to countenance wilful burnings. Then, instead of sympathetic, weak-kneed juries, we may have men in the jury box who will mete out penalties which fit the crime whenever the evidence warrants.

Possible to Develop Squads Which Will Do Work Well

I am entering into arson squad work with a great deal of enthusiasm. I believe it is possible to develop squads which not only will do their work well, but will cooperate with other communities in a statewide network. If so, the firebug will have a mighty hard time looking for new fields of endeavor when one locality gets too hot for him, because he will find himself under surveillance where he next takes up his abode. Local squads can likewise be of assistance in running down cases where the past history of the suspect extends over several communities. If one state can organize to this degree of efficiency, then other states can do so, with the result that we may have an interstate network of cooperation.

I may be accused of being a dreamer, but if an idea is worth trying, it is worth developing to its ultimate possibilities. The higher we aim, the more we are likely to accomplish. The more we accomplish, the greater will be our enthusiasm.

As I stated in the beginning, the arson situation, with its promiscuous and indiscriminate burnings among all classes of people, is a direct challenge to society. Arson squads are the logical answer to that challenge.

(From an address before the third annual convention of the Tennessee Association of Arson Squads at Nashville.)

Preventing Fires Through Inspections

(Continued from page 276)

waste cans should be provided for oily waste and rags, and these should be emptied daily and the refuse burned.

All parts of all heating devices should have ample clearance to combustible material. Vent pipes used in connection with gas stoves should always extend to a chimney and never be run in combustible partitions. All flexible gas connections are dangerous; stoves should be connected only with rigid iron pipe. Ashes should never be deposited in combustible receptacles and should be removed from the building frequently.

The Perils of Gasoline and Oil

Gasoline, one of the greatest and most common of fire hazards, may be found in nearly every risk, and is used extensively for cleaning garments and machinery, all of which is extremely dangerous. A gallon of gasoline will push an automobile several miles along a country road, and when conditions are right the same amount is sufficient to lift a fairly large building from its foundation. Many persons lose their life and others are frightfully burned as a result of cleaning clothes with gasoline. Small quantities should be kept in approved safety cans and, if in excess of 5 gallons, should be kept in underground tanks outside of any building. Educate people to use a non-flammable liquid for spotting clothes.

In spite of all the warnings, many tragedies occur every year as a result of using coal oil to kindle the fire.

An average of 5 school buildings burn each day of the year. The burning of school property is a set back to American progress. Retarding the education of school children is a disaster of far greater consequence than destruction of property.

Keeping Extinguishers Up to the Mark

Many different kinds of first aid appliances will be found and one should look to it that they are properly maintained and ready for instant use. Extinguishers should be recharged annually and immediately after use. It is generally not necessary to refill the carbon tetrachloride type every year, but a portion of the liquid should be pumped out to make sure that the appliance is in good order, and the container should be kept filled at all times.

Directions should be followed carefully, using only recharges recommended by the manufacturer of the extinguisher; otherwise, the extinguisher may not work when needed. A tag should always be attached, showing date of re-charging. Anti-freezing ingredients should never be mixed with solutions in the soda-acid or foam type extinguishers as this will impair the action of the appliance and cause corrosion. Water pails, sand pails and water barrels should always be kept filled. Underwriters' Laboratories' label on an extinguisher is a guarantee that it is effective on fires for which it is designed to be used, and this label is a protection against sub-standard devices.

Water should never be run through linen hose, except in case of fire, but it should always be noted to see if the hose is beginning to rot at the point where it is connected to the standpipe, and if its condition is generally reliable and ready for immediate use.

Inspection of buildings by members of the Fire Department is such a broad subject that time is not sufficient to go into much detail, and only a few of the important points can be taken up. Much could be said about the storage of combustible fibres, hazardous chemicals, various kinds of oils, explosives and many other hazards, all of which one should have some knowledge.

Service is the key note of the Fire Department, and by doing intelligent inspection work, in addition to the fire fighting activities, the Department will be giving the tax payers a full measure of usefulness and public service. The fireman should be as welcome on his fire prevention mission as he is when responding to a fire call, and after the public learns to have confidence in him, he may depend upon its full cooperation.

(From a paper read before the Firemen's Short Course of the Nebraska State Firemen's Association, at Kearney.)

Chief Delfs Urges More Pumpers

Hugo Delfs, head of the Fire Department of Lansing, Mich., and Past President of the International Association of Fire Chiefs, has issued a warning to city officials not to cut down on fire protection. Instead he recommended that the city provide more pumpers for the department, and that because of the protection that must be provided for the large automobile factories and mercantile section, another station must be erected.

In commenting editorially on this warning the Lansing *Capital News* states:

"Should this warning from a man who knows more about fire fighting than anyone else in Lansing go unheeded? Should we ignore the advice that heretofore has always been valuable? Now is no time to curtail. No city department has made a record more worthy of continued support—support commensurate with growing needs."

Back in 1908 Chief Delfs is credited with the purchase of the first automobile pumper in the country. At that time scores of chiefs laughed at the horseless engine, but when it proved of value in fire department operations, other chiefs followed the lead.

Pueblo, Col., Has New Apparatus—New fire apparatus has been placed in service at the Bessemer Station, Pueblo, Col.

FALSE ALARMS

Drawing by "Art" Estey

Glossary of Common Words

HONEST, ANYWAY

Members of the old volunteer department in New York City were required to give reasons for being absent at a fire. The following amusing but candid entry is found in a record dating back to January 15, 1807:

"Harris Sage's excuse is received. He says at the time of Fire he was lock'd in some one's Arms & could not hear the alarm."

In Wisconsin recently a woman who drove her car through a fire line was discharged by the judge under a statute of 1822 which provides that "no female shall be arrested in any action except for a wilful injury to person, character or property."

HOME IS BEST

The chief had been to the state capital for several days to try to win support for contemplated fire prevention law. When he returned back to his office, of course there were the usual friends to inquire how he enjoyed his trip. He replied:

"You can talk all you want about getting away, but believe me boys it feels great—it certainly feels great to feel your own desk under your feet."

We know of a man whose ambition is to lead a certain fire department band—at least as far as the city limits.

DAD, HE KNOWS

A wayward son of a well-known family was on trial for arson. He admitted a series of fires, to satisfy a craving for excitement. In court, the boy was acquitted, and the lawyer was very happy when he returned to his office.

"He was acquitted," he remarked to his law partner.

"Wonderful. On what grounds?"

"Insanity. I proved that his father had spent five years in a lunatic asylum."

"But he hadn't, had he?"

"Yes," said the lawyer, "he was a doctor there, but I saw no need to bring that out."

A blind man invariably has a dog. If he had tried the stuff on the dog first maybe he wouldn't have needed one.

POINT OF VIEW

Firemen can not be expected to wear the regulation uniform at all hours. There are times when it is a pleasure to get back into civilian clothes. Mike, attired in his latest acquisition, called at the station to show off his purchase.

"Quite a suit, don't you think? I spent $22.50 for it, but I'll bet if I told that I paid $50 for it you would believe me."

"Sure we would," said one, "if you told it to us over the telephone."

The boy stood on the burning deck
With two white arms around his neck,
When she looked into his eyes, by heck,
The boy was burning, not the deck.

EQUAL RIGHTS

Even a fire department officer is often unable to supply necessities asked for by the wife. That is why the following conversation took place:

"You haven't mended my socks, have you?" he inquired.

Evading the question, the wife replied, "Did you buy that coat you promised me?"

"No-o-o."

"Well, if you don't give a wrap, I don't give a darn."

TOO PROLIFIC

The boys had given considerable time and thought to the furnishings for the new station. Of course, there were many things still to be purchased, but the men were proud of their new home. A prominent person from a neighboring city was being shown the new station. Turning to his guide, he suggested:

"You should have a reproducing piano here."

The guide was puzzled for a moment.

"Yeh! But what would we do with a lot of little pianos all over the place."

It's getting so a guy can't even lie in the gutter these nights without being picked up by the police for illegal parking.

OFFICE HOURS

Some firemen are braver while at work than during their off hours. Tom Gerrity was in this class. When he called on a young lady, he had a most amusing story to tell her.

"You know I had a dream about you. I dreamt that I proposed to you. Now what do you think that shows?"

Without a twitter of an eyelash, the lady replied:

"It shows that you have more gumption while you are asleep than while you are awake."

When you want to think of how scarce things can be, just think of how rare nickels and dimes are in a taxi driver's change pocket.

PROPER MATERIAL

The council was considering the erection of a new fire station, and as is often the case, the group was embarrassed by lack of funds. Many suggestions were presented but nothing definite resulted.

The presiding officer remarked:

"Come, come, gentlemen! Let us put our heads together and see if we can not produce a concrete fire station."

"I heard your party was all wet."

"Yes, the music got so hot that it started the automatic sprinkler system."

It would be fine if some one would invent soft rubber mouthpieces for telephones. Then when you get real mad at the phone, you could bite it.

Broadcasting stations are not permitted to broadcast the word Hell, but lots of stuff that's broadcast sounds like it.

Drawing by "Art" Estey

Battalion Chief: Wotsa idea of that snipe in your face?

Fireman: Orders, sir! My captain told me never to drop a butt.

The Clark Inhalator

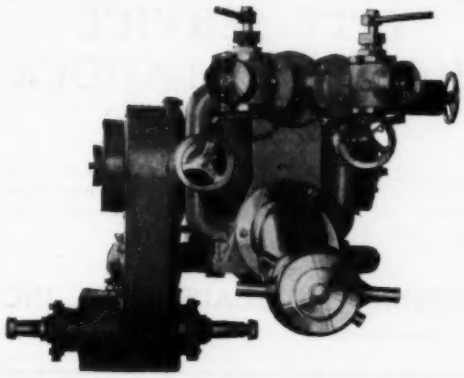
automatically and unfailingly delivers all the gas called for by the respiration of either one or two victims.

When giving the advanced (7%) treatment, this volume may exceed 60 litres a minute. With this excessive demand coming even from two patients, the supply in a "Clark" never fails and **NO GAS IS WASTED**

The Clark Inhalator has been Tested and Approved by the Committee on Resuscitating Apparatus for the American Gas Association. This official approval is for the use of the Inhalator on either one or two victims.

Give the victim every chance. The "Clark" does it.

McDonald Engineering Corp.
220 Varet Street Brooklyn, N. Y.



WATEROUS ROTARY PUMPS

In the last analysis it's performance that counts. And that's what you want in a fire pump. It *must* be efficient—long-lived—dependable. Waterous has been producing such pumps for nearly half a century.

Waterous Dependable

WATEROUS COMPANY
St. Paul, Minnesota

MATHEWS
(Reg. U. S. Pat. Off.)
FIRE HYDRANTS
for
DOMESTIC
and
HIGH PRESSURE
Service

NOTE—

The positive waste value.

All operating threads are dry, being above the stuffing-box.

No toggles, no small, quick-wearing parts.

All moving parts are bronze or bronze-bushed.

The outside casing permits replacing a two-way standpipe with a steamer and two-way standpipe without digging up the ground.

An easily installed EXTENSION SECTION readily adapts them to new grade.

VALVES and BOXES
CAST IRON PIPE
Sand-Cast or "Sand-Spun"
FITTINGS

R. D. WOOD & CO., Phila., Pa.

Newest Designs ***Highest Quality***

Specializing in badges and insignia equipment for every fire department need, the EVERSON-ROSS line, known for its fine quality of materials and workmanship, offers a large, up-to-date selection to suit the most discriminating taste. Before you buy—

Write for our Fire Department Badge Catalog No. 32.

EVERSON-ROSS CO.
88 Chambers Street, New York

CITY SERVICE HOOK and LADDER APPARATUS

We build both LIGHT and HEAVY HOOK AND LADDER TRUCKS. Equipped with our high grade ladders and miscellaneous equipment. Double Bank type—and very low to ground.

Write us when interested

COMBINATION LADDER CO., INC.

381 Fountain St. Providence, R. I.

when!

You are interested in Fire Fighting Equipment consult:

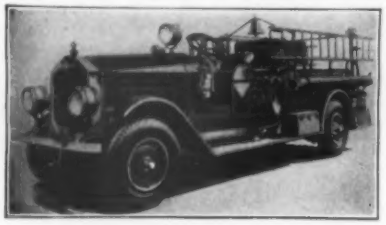
BOYER

Builders of equipment to meet your requirements. Specializing in Apparatus for Rural Fire Fighting.

BOYER FIRE APPARATUS COMPANY
Logansport, Indiana

MAXIM FIRE APPARATUS

All Types



All Sizes

If you are thinking of buying new apparatus shortly, be sure to get all the facts about MAXIM before you decide.

Send for complete information

MAXIM MOTOR COMPANY, Middleboro, Mass.
Metropolitan Sales Agents:
The Woodhouse Manufacturing Co., 156 Chambers St., N. Y.

MORSE

FIRE BOAT EQUIPMENT
Invincible and Callahan Nozzles

Fire Department Supplies

are in use throughout the country and giving unsurpassed service.

Every fire official should be fully acquainted with Morse equipment and have our catalog and other descriptive literature on file for ready reference whenever considering the purchase of new equipment.

You will find that it pays.

Write for Catalog

Andrew J. Morse & Son, Inc.
221 High St. Established 1837 Boston, Mass.

Always ready for instant use.

For Personal Safety use

DONTFEAR

Smoke and Fume Respirators

Positive protection against smoke, fumes and gases.

Price $5, Goggles $1 extra; Canisters 50 cents

Send for catalogue.

Don'tfear Mask Co.
654 Madison Avenue, New York, N. Y.

Hedberg Super Sirens

"The World's Best by Test"

offer the world's greatest and most versatile range of choice involving sizes and methods of operation.

Write for descriptive matter showing sirens that have never lost in competition.

J. N. HEDBERG
321-49 W. REED ST.,
SAN JOSE - - - CALIFORNIA

New Victor Gas and Fume Mask

Better Rubber. Longer Life. Better Fitted. Moulded to Fit the Face. Better Vision. Renewable Lenses. Better Air. Better Work. Low Prices. High Ouality.

Over 5,000 Victor Gas Masks in Service

Full Line Fire Dept. Supplies and Equipment

New 43 Edition Catalog on Request

The Woodhouse Mfg. Co., Inc
156 Chambers St., New York
D. A. Woodhouse Pres. and Gen. Mgr George J. Kuss Vice-Pres. and Treas.

One big whistle with 1930 improvements throwing the sound equally in all directions.

THE BEST MADE, we leave it up to you, your engineers or any good mechanic, and a test.

The decision will unquestionably be the ERICK, designed for the purpose.

For further information address

Erick Electric Siren Co.
State & Fillmore Ave.
St. Paul, Minn.

Your Catalog Page

Fire Protection Equipment and Supplies

1 Acid Siphons.
2 Adaptors for Changing Hydrant Threads.
3 Acid Jars and Rings.
4 Aerial Ladders, Detachable.
5 Aerial Trucks.
6 Alarms, Siren, Electric.
7 Alarm Systems, Industrial.
8 Alarm Systems, Municipal Telegraphic.
9 Alarms, Thermostatic.
10 Asbestos Clothing.
11 Badges, Insignias, Buttons, etc.
12 Banners, Trumpets, etc.
13 Battery Jars.
14 Battery Zincs for Fire Alarm Batteries.
15 Bells, Fire Alarm, Municipal
16 Body Equipments.
17 Boxes, Gongs, Reels, Registers, Fire Alarm.
18 Brakes, Air.
19 Brake Linings.
20 Brooms, Fire.
21 Building Materials, Fire Retardant.
22 Caps, Firemen's.
23 Chains, Non-Skid Fire Apparatus.
24 Chassis for Fire Apparatus.
25 Chemical Engines and Tanks.
26 Chimney Cleaning Compounds.
27 City Service Trucks.
28 Coats & Suits, Firemen's Quick Hitch.
29 Combination Chemical & Hose Cars.
30 Cutting & Welding Equimpent Blow Torch.
31 Cutting & Welding Equipment, Electric.
32 Deluge Sets.
33 Door Openers, Fire Station, Automatic.
34 Extinguishers, Calcium Chloride.
35 Extinguishers, Carbon Dioxide.
36 Extinguishers, Soda-Acid.
37 Extinguishers, Carbon Tetrachloride.
38 Extinguishers, Foam.
39 Extinguishers, Powder.
40 Fire Boat Nozzle Equipment.
41 Fire Department Supplies, General.
42 Fire Exit Devices, Door Opening.
43 Fire Alarm Posts.
44 Fire Escapes, Portable.
45 Fire Escapes, Rigid.
46 First Aid Equipment.
47 Flare Lights.
48 Flashlights, Hand.
49 Foam Liquid for Extinguishers.
50 Gas Masks and Respirators.
51 Gas & Smoke Helmets.
52 Gasoline & Oil Handling Equipment.
53 Goggles, Firmen's.
54 Helmets, Metal, etc.

Help Wanted?

Just run down the list of equipment and jot down on the coupon below the numbers that indicate the equipment in which you are interested. Then fill out rest of the coupon and mail it to us.

We will then request the leading manufacturers of such equipment to send you descriptive literature and prices direct without any cost to you or obligation whatever.

The manufacturers we notify will gladly do this because they are advertisers and good friends of this publication and want to cooperate with our readers in every way possible in the improvement of their departments. So help yourself! Get what you want!

Fire Protection Equipment and Supplies

55 Hose Carts, Reels & Racks.
56 Hose Clamps.
57 Hose, Fire.
58 Hose, Chemical.
59 Hose Holders.
60 Hose Jackets.
61 Hose Standardization Tools.
62 Hydrant Draining Pumps.
63 Hydrants, Fire.
64 Jacks for Fire Trucks.
65 Jacks, Shoring & Prying.
66 Ladders, Fire.
67 Lightning Arresters.
68 Motorcycles, Fire Dept. Equipped.
69 Nets, Life.
70 Nozzles, Pipes & Misc. Brass Goods.
71 Packings, Pumps.
72 Pads, Pole Hole.
73 Paints, Fire Resisting.
74 Priming Ether, Motor.
75 Pumping Cars, Standard.
76 Pumping Cars, Foam.
77 Pumps, Fire Apparatus.
78 Pumps, Fire Service, Stationary.
79 Pumps, Portable for Fire Protection.
80 Record Books, Fire.
81 Relief Valves.
82 Reviving Apparatus, Oxygen.
83 Rubber Clothing.
84 Searchlights.
85 Shingles, Fire Retardant.
86 Shirts, Firemen's Special.
87 Sirens, Apparatus & Chiefs' Cars.
88 Sliding Poles.
89 Soda & Acid Chemicals.
90 Spark Plugs, Fire Apparatus & Motorcyles.
91 Squad and other Auxiliary Cars.
92 Sprinkler Head Shut-Offs.
93 Sprinkler Supervisory Service.
94 Sprinkler Systems, Automatic, Foam.
95 Sprinkler Systems, Automatic, Water.
96 Starters, Fire Apparatus, Automatic, Air.
97 Steam Fire Engines.
98 Tarpaulins & Fire Blankets.
99 Tetrachloride Chemicals.
100 Thawing Equipment, Hydrant.
101 Tires, Fire Apparatus, Pneumatic, Solid, Cushion and Non-Skid.
102 Tractors.
103 Traffic Clearing Systems.
104 Triple Combination Pumping Cars.
105 Uniforms.
106 Water Towers.
107 Wheels, Cushion.
108 Whistles, Fire Alarm, Compressed Air
109 Whistles, Fire Alarm, Steam.
110 Whistles, Fire Apparatus.
111 Wrecking Trucks.

TEAR OFF HERE

FIRE ENGINEERING, 24 West 40th St., New York City.
As a fire protection official I should like to have descriptive literature and complete information mailed to me, without cost or obligation, on the equipment indicated by the following numbers:

Date.....

Nos. .....

Nos. .....

Nos. .....

Nos. .....

Name .....

Position .....

Street .....

City and State.....

For Information on Any Equipment Not Listed, Write on This Page or Use Separate Sheet

4-2

Quick-Acting Reliable

Anderson-Hale Improved

FIRE STATION DOOR OPENERS

Over 1,300 sets of Anderson-Hale Fire Station Door Openers are in successful use. They provide simple, durable, quick-acting doors that open inward. No obstruction to sidewalk. Attractive in appearance, cannot sag, closes tight, excludes cold, gives clear opening.
Opens from driver's seat or from floor. Many repeat orders from users.

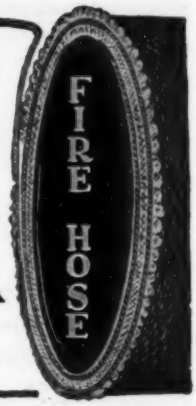
Write for complete information.

The Anderson Coupling & Fire Supply Co.
Mfrs. Motor Fire Equipment and Fire Supplies
Kansas City, Kansas

Baker Fabric

A mass-woven jacketed hose with a reinforced rubber lining, —mass-woven to equalize the stress on all strands and eliminate writhing under pressure. Write for details.

MANUFACTURED EXCLUSIVELY BY
HEWITT - GUTTA PERCHA
RUBBER CORPORATION
BUFFALO, N. Y.
(Also makers of single and double jacket hose)
"Territories Available"

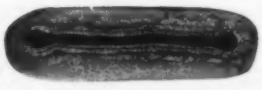


JOHN H. CLAY, INC.
1320 Ridge Ave., Philadelphia, Pa.
Established 1864

Clay Automatic Door Opening Devices for Fire Station Doors Opening either In or Out. Save valuable minutes in getting to fires. Send for Bulletin.

BI-LATERAL FIRE HOSE

THE BI-LATERAL FIRE HOSE CO.
Canal St. Station
110 North Franklin St., Chicago, Ill.



If a hose salesman can convince you by any argument that his three-year guarantee will result in just as good an adjustment, should one be necessary, as a guarantee for six years, from a reliable company, certainly if you have a goat, he's got it.

BI-LATERAL FIRE HOSE is guaranteed six (6) years.

THE SHIFT COUPLER
Built to
CONNECT and DISCONNECT instantly!
Any size hard suction
Years of Service Prove it the Best

National Standard Threadless Coupling Corp.
215-217 Beach 122 St., Rockaway Park, N. Y.

COOPER ELECTRO-PNEUMATIC ALARM

In use for Years
Unlimited life
Nothing to get out of order

Powerful—Reliable—Instantaneous

Operates on only 1/10 amount of air required by whistles. Quickest device for coding. May be connected to present system and will operate if power is temporarily off. Produces a powerful and distinct sound audible for miles.

Manufactured by
CLARK COOPER
153-159 Jefferson St. PHILADELPHIA

BODY GUARD
FIRE FIGHTERS CLOTHING

GIVES real protection and comfort in any weather and at any kind of fire. Designed to permit freedom of action, eliminating cumbersome excess weight. Made of materials that withstand the hardest kind of usage. Bodyguard apparel is used by Firemen everywhere.

BODY-GUARD BRAND

THE BODY GUARD MANUFACTURING CO.
ST. JOSEPH • • MISSOURI

Clifton Salvage Covers

Are made of strong, heavy duck and lapped seams and are designed of such thickness and weight as to be light enough to be handled quickly and rigid enough for the most strenuous service. They are rubberized on both sides with a double coating of a high grade, long life, rubber compound.

CLIFTON SALVAGE COVERS are built to stand the heaviest abuse and are used by many of the large Protective Departments.

May we send you further particulars?

Clifton Manufacturing Company
Jamaica Plain District :: Boston, Mass.

ADVERTISING INDEX

Advertising Pays—in Fire Engineering

	PAGE
A.B.C. Fire Prevention Mfg. Co.	298
Ahrens-Fox Fire Engine Co.	269
American Fomon Company, Inc.	298
American LaFrance & Foamite Corp.,	*Inside Front Cover*
American Rubber Mfg. Co.	297
Anderson Coupling & Fire Supply Co.	304
B. & M. Siren Mfg. Co.	294
Bi-Lateral Fire Hose Co.	304
Body Guard Mfg. Co.	304
Boyer Fire Apparatus Co.	302
Braxmar Co., C. G.	293
Buckeye Iron & Brass Works	297
Clark-Cooper Co.	304
Clay, Inc., John H.	304
Clifton Mfg. Co.	304
Combination Ladder Co.	302
Darling Valve & Mfg. Co.	270
Don'tfear Mask Co.	302
Eastman Co., Samuel	298
Eddy Valve Co.	298
Erick Electric Siren Co.	302
Eureka Fire Hose Mfg. Co.	*Front Cover*
Everson Ross Co.	301
Fabric Fire Hose Co.	271
Fulton Bag & Cotton Mills	297
Gamewell Company	272
Hahn Motor Truck Co.	293
Hale Fire Pump Co.	298
Hedberg, J. N.	302
Hewitt-Gutta Percha Rubber Corp.	304
Information for Buyers	303
Lally Fire Appliance Co.	298
Larkin Mfg. Co.	298
Mack Trucks, Inc.	*Back Cover*
Maxim Motor Co.	302
Morse & Son, Inc., Andrew J.	302
McDonald Engineering Corp.	301
National Standard Threadless Coupling Corp.	304
P-B Products Co., Inc.	294
Peter Pirsch & Sons Co.,	*Inside Back Cover*
Reed's Sons, Jacob	298
Rensselaer-Valve Co.	294
Sterling Siren Fire Alarm Co., Inc.	267
Union Water Meter Co.	294
Waterous Company	301
Wausau Fire Hose Protector Co.	294
Wood & Co., R. D.	301
Woodhouse Mfg. Co.	302

For Your Convenience

Here is a convenient subscription blank for the reader who is not a regular subscriber. 26 issues for $3.00. Pay within 30 days.

Name.....

Address.....

Position.....

.....

Fire Engineering, 24 W. 40th St., N. Y. C.

Three Books

Every Ambitious Fire-Fighter Should Have

Questions and Answers for Lieutenant and Captain

A 290 page book, fully illustrated, by Geo. J. Kuss, Former Deputy Chief, New York Fire Department, and Fred. Shepperd, Managing Editor of FIRE ENGINEERING.

Contains questions asked at promotional examinations in practically every city in the country where civil service examinations are held, with answers.

Includes chapters on Report Writing, How to Answer Examination Questions, Chemistry Examination Questions, Fire Fighting Questions, Overhauling, Ventilation, Fire Prevention, Inspection, Evolutions, Drills, Use of Apparatus, Rescue Work, and in fact all the topics covered by the fire department promotional examinations.

If you are studying for a promotional examination, you need this book, and if you are not studying for examination, this book will nevertheless give you a vast amount of valuable information on up-to-date fire methods.

Price $2.65 Postpaid

Questions and Answers for Battalion and Deputy Chief

A 210 page book, fully illustrated, by Geo. J. Kuss, Former Deputy Chief, New York Fire Department, and Fred. Shepperd, Managing Editor of FIRE ENGINEERING.

A valuable book, not only for candidates for examinations for Battalion and Deputy Chief, but for every member of the department. The only book published which gives detailed methods of operating at large fires and the reasons for each move.

The following are a few of the important topics covered:

Detailed description of the proper procedure in fighting fires: 1. Size-up; 2. Calling of help; 3. Saving of life; 4. Covering exposures; 5. Extinguishing fire; 6. Overhauling. How to test motor fire apparatus. How the following types of fires should be fought: Large department stores, large hotels and rooming houses, large area residential fires, combination stores and apartments, motion picture film exchanges, tall office buildings, wholesale grocery stores and warehouses, group building fires, theatres, schools, factories, etc., and considerable other data.

Price $2.15 Postpaid

Simplified Fire Department Hydraulics

A 200 page book, fully illustrated, by Fred. Shepperd, Managing Editor of FIRE ENGINEERING.

A complete course of instruction in fire department hydraulics. Designed to prepare fire department officers for hydrauilc questions in examinations, such as required of all ranks.

Contains over 150 problems in fire department hydraulics asked in examination in New York, Chicago, Milwaukee, Seattle, Newark, and a score of other large cities.

Treats fully all departments of fire department hydraulics including pressure calculations, friction loss, engine and nozzle pressures, range of streams, capacities of engines, discharge from nozzles, hydrants, sprinklers, etc., etc.

Price $2.15 Postpaid

Use This Coupon Now to Order Your Copies

Book Department
Case-Shepperd-Mann Pub. Corp.
24 W. 40th St., N. Y. C.

Gentlemen: I am enclosing $.....money order (or check), for which please send me the following:

.....Copies of "Questions and Answers for Lieutenant and Captain" at $2.65 each.

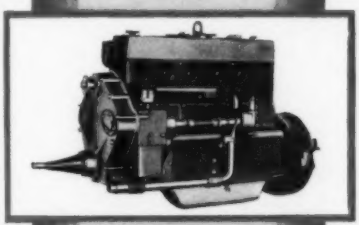
.....Copies of "Simplified Fire Department Hydraulics" at $2.15 each.

.....Copies of "Questions and Answers for Battalion and Deputy Chief" at $2.15 each.

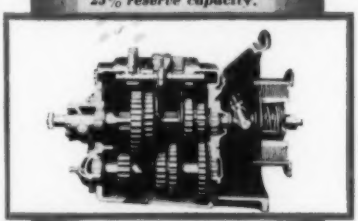
Name .....Rank .....

Address ..... Date.....

PIRSCH
EST 1857



Ample speed and power are assured by this powerful engine, with 25% reserve capacity.



Pirsch change speed gears are all built of special alloy steel, heat treated and hardened.

The machine shown above is a special built Community Fire Fighter equipped with a shatter-proof glass enclosed cab. It is a combination pumper, hose cart and booster engine designed primarily for community and country fire service. It carries a 1000′ capacity hose body, two 70 gallon copper booster tanks, two booster lines of 200′ each on hose reels and all other equipment necessary to efficient operation under difficult conditions. Pirsch quality throughout.

What More Can We Do!

THE PIRSCH line of fire engines includes pumpers of 500, 600, 750 and 1,000 gallon capacity, in several styles, ladders, ladder trucks in four sizes, chemical and foam equipment. It meets the needs of every community, large and small.

Fire departments interested in new equipment, either for extension of their present activities or for replacement of older equipment, are cordially invited to compare Pirsch machines, point for point, with any now being offered.

Our reasons for courting close examination and comparison are these—

We were leaders in the adoption of left hand drive, booster brakes, dual ignition, fresh oil supply for continuous pumping, anti-friction bearings, alloy steel parts and many other important developments.

We specialize on improvements that give our engines greater power, speed and safety; better control and more dependable operation. In these essentials Pirsch pumpers have no superior.

Whatever needs to be done to convince you of this fact, we stand ready and willing to do. Write.

PETER PIRSCH & SONS CO.

Factory and Home Office Kenosha, Wis.

Mack FIRE APPARATUS

A BIG NEW ENGLAND CITY BUYS ITS SECOND MACK TYPE NINETEEN CENTRIFUGAL PUMPER

When New Haven, Connecticut, is mentioned one thinks of Yale. When Fire Apparatus is mentioned in New Haven they now think of MACK. For New Haven has just added another Mack Type 19 one thousand gallon pressure-volume centrifugal pumper to its modern fire-fighting equipment.

Progressive cities know the many advantages of the Mack pressure-volume control. Full hydrant pressure is utilized, taking that many pounds work off the driving member—thereby adding to the life of the whole apparatus. Greatly increased quantities of water are thrown without change of speed when the discharge pressure is reduced. And by a simple turn of the wheel the capacity of the pump at rated pressure can be converted to one-half at double pressure.

Pressure-volume control is an original, exclusive Mack development.

Tremendous resources and investments in plant equipment guarantee that Mack Fire Apparatus will never become "Orphaned."

Types of Mack Fire-Fighting Equipment

- *Hose wagons*
- *Chemical engines*
- *Combination hose and chemical*
- *Pumpers*
- *Triple combinations — pump, hose, booster (chemical)*
- *City service hook and ladder trucks*
- *Quadruple combinations — pump, ladders, hose, booster (chemical)*
- *Tractors*
- *Tractor-drawn aerial hook and ladder trucks*
- *Squad cars*

MACK TRUCKS, INC.
Fire Engine Division
25 Broadway, New York, N.Y.

Mack

More than 100 direct Mack Factory Branches are equipped to service Mack Fire Apparatus in any emergency

TRUCKS · BUSES · FIRE APPARATUS · LOCOMOTIVES